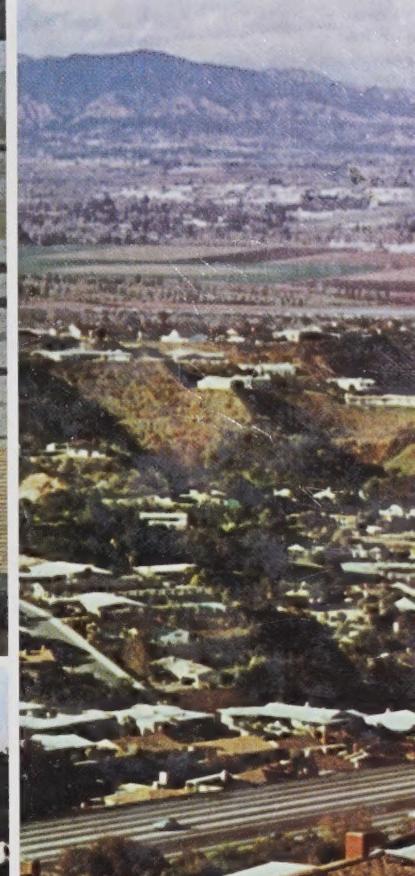
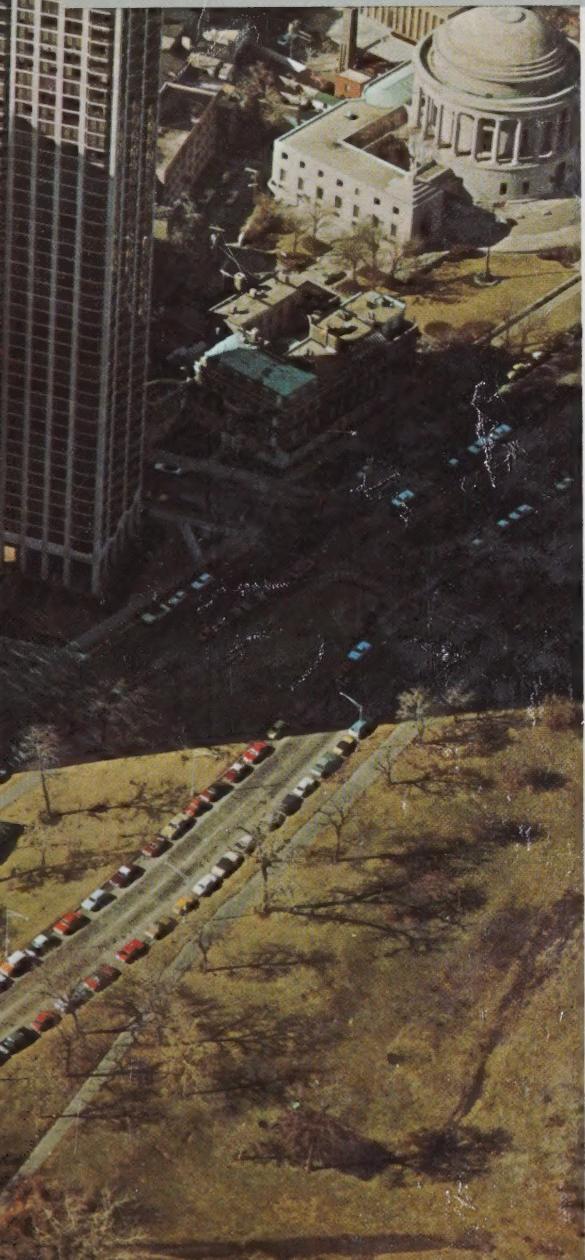


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# Housing decisions



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*The Goodheart-Willcox home economics series*

# *Housing decisions*

*Evelyn L. Lewis*

*Professor of Home Economics*

*Northern Arizona University*

*Flagstaff, Arizona*



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*South Holland, Illinois*

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Printed in the United States of America  
Library of Congress Catalog Card Number 77-16121  
International Standard Book Number 0-87006-224-1

23456789-78-32109

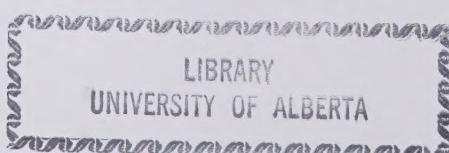


**Library of Congress Cataloging in Publication Data**

**Lewis, Evelyn L.**  
Housing decisions.

Includes index.

1. Housing — Decision making. I. Title.  
HD7287.5.L44 301.5'4 77-16121  
ISBN 0-87006-244-1



# *Introduction*



*Housing Decisions* prepares you to make wise choices concerning your housing. It helps you understand your housing needs, and it shows you how to satisfy those needs. Many housing alternatives are presented throughout the book. You will learn to evaluate them and select the best ones for you.

*Housing Decisions* gives you a broad understanding and appreciation of the housing field. A logical progression of topics leads you through the decisions you face when selecting and furnishing your home. A chapter describing career opportunities related to housing is included.

*Housing Decisions* is easy to read and understand. It includes hundreds of illustrations which give you ideas you can adapt to fit your own home. References to the illustrations are made in the copy. They help you link the visual images to the written text.

Each chapter begins by stating objectives which help you set goals for your learning. Following the chapter are a list of key words, questions to help you review the chapter's important points and suggestions for fun learning activities.

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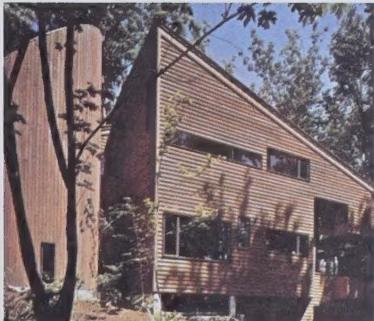
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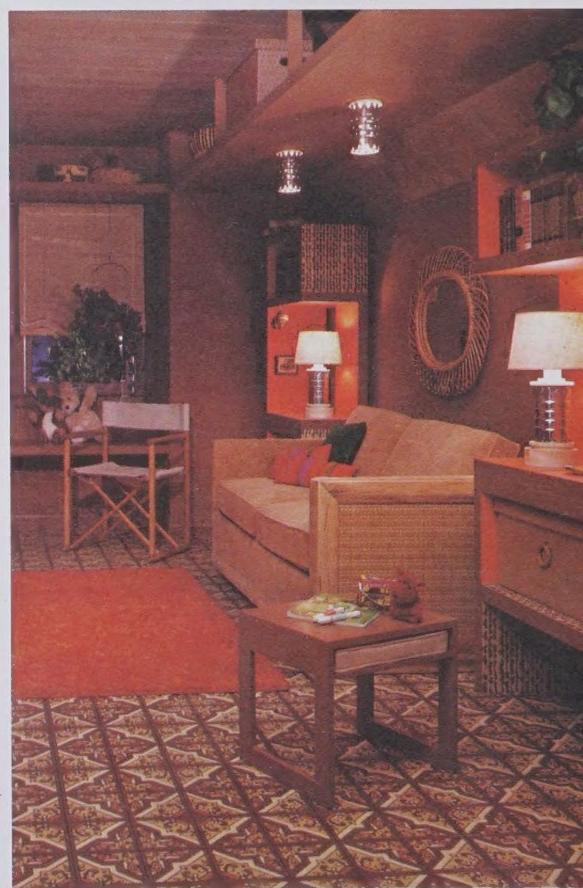
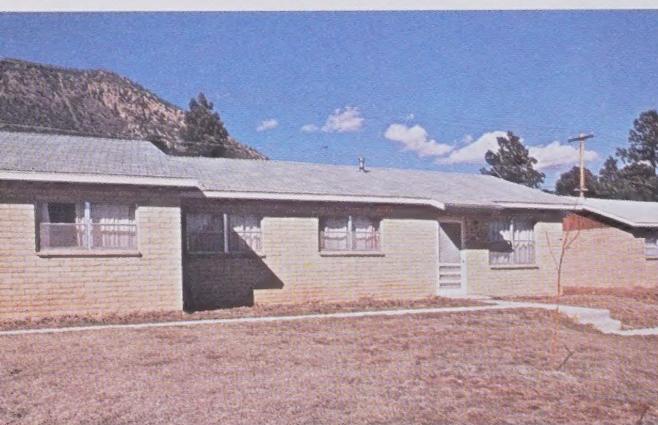
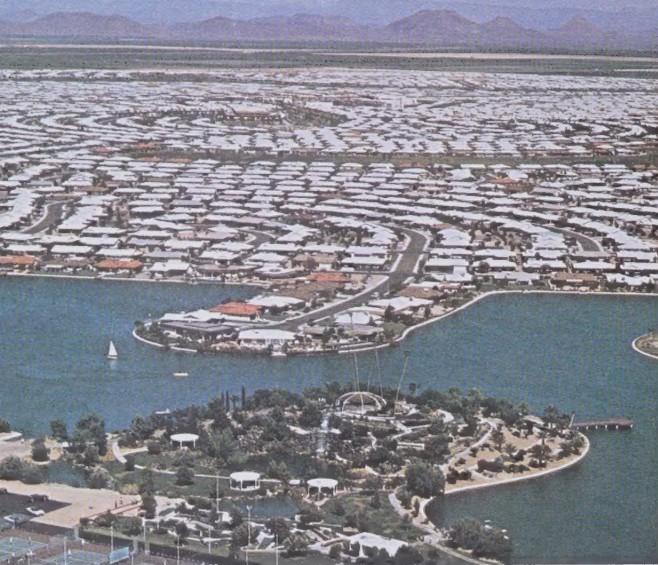
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# Housing for you

## 1 Housing for satisfaction, 9

Your microenvironment, Needs and values, Primary needs, Secondary needs, Values, Satisfying needs and values, Shelter, Food, Air, Water, Security, Space, Privacy, Social Interaction, Family unity, Economy, Self-expression, Creativity, Beauty, Esteem, Prestige, Housing for self-actualization

## 2 Housing and life situations, 33

Living units, Life cycles: individual – family, Life-styles: individualistic – influential – communal – supportive – basic, Quality of life for society, Socioeconomic status, Social class, Economic level, Housing for the handicapped, Housing for the elderly

*"Housing" is a broad term that includes things both outside and inside dwellings. Your housing should be a source of satisfaction for you, and it should be flexible enough to continue to satisfy you as your life situations change.*



# Housing for satisfaction

*After reading this chapter,  
you will be able to explain  
how you interact with your housing,  
how your housing helps you  
satisfy your needs and values  
and how you can achieve  
self-actualization.*

*Your housing should help satisfy  
your needs and values,  
regardless of the type of dwelling  
in which you live.*

DANNY CLEVENGER   W.H. TROXELL  
GEORGE GALE

**H**ousing, good or poor, has a deep and lasting effect on all of us. Winston Churchill once said, "We shape our buildings, and then they shape us." This is especially true of the buildings in which we live. First, we find a shelter to satisfy our needs. This shelter, in turn, affects the way we feel and act.

*Housing*, as we will use the word, means the dwelling itself and all that is within it and near it. This includes the furnishings, the neighborhood and even the community. Throughout our study, we will consider the relationship between people and housing.

## Your microenvironment

Housing is your *microenvironment*. It is just one part of your total environment, but it is a very important part. Housing has a great effect on your life-style and your personal development.

Whether you live alone or with other persons, you *interact* with housing. Your housing affects the way you behave and feel. At the same time, your style of living affects your housing.

For instance, suppose you live in a small apartment. You would not be able to host a lot of large parties. You would not have enough room, and your neighbors might

become angry. In this way, your housing affects your actions.

On the other hand, if you wanted to host large parties, you would probably choose a different kind of housing. A large house that is set apart from others would meet your need. In this way, your life-style affects your housing.

This interaction can also be seen on a smaller scale. Suppose a room in your home is decorated with many expensive works of art. This would give you a feeling of formality and elegance. You would not want to work on your hobbies in this room. However, if hobbies were important to your life-style, you would furnish the room differently. You would adapt your housing to match your way of life.

## NEEDS AND VALUES

Your well-being is affected by everything around you. Your microenvironment, in the form of housing, helps fill your needs. It also helps you express what you value. Human needs and values, then, are the first concern in a study of housing.

### Primary needs

Your needs can be placed in the order of their importance. Some needs are common to all humans. They are physical in nature and have priority over other needs. These are called *primary needs* or basic needs. Food, shelter, clothing, air and water are some of your primary needs.

Your primary needs must be satisfied before you can think of anything else. As soon as they are satisfied, you become concerned about your needs of lower priority.

### Secondary needs

Needs of lower priority are called *secondary needs*. Self-esteem (awareness and appreciation of your own worth) is a secondary need. Another such need is the chance to be successful. These needs are psychological (having to do with the mind) or social (related to other people).

A director of a rescue mission once said that he saw human needs arranged in this order: 1. Soup. 2. Soap. 3. Salvation. When people came to him for help, their primary needs had not yet been satisfied. Hungry people can think only of food. Once they have eaten, their next concern is to be comfortable. Only when their physical needs are fulfilled can persons think of their secondary needs.

Maslow has listed human needs in order of priority as shown in 1-1. The primary needs are at the base of the pyramid. When your primary needs have been fulfilled, you progress up the pyramid, one step at a time. If you can meet the final need of *self-actualization*, you will have developed your full potential as a human being. You will have become the best that you can be. You will be doing those things that you do best. If your talent is writing poetry, you will be the best poet that you can be. If your talent is baseball, you will be playing as well as you can play.

### Values

What is important to you? What do you like? Your answers to these questions tell you what your *values* are.

Your values are different than those of anyone else. Perhaps you value some of the following: friendship, family, money, status, religion, independence or education. You have formed your set of values as a result of the experiences you have had. The people you know, the places you have been and the things you have done have all influenced your values.

You use your values whenever you choose between two or more things. The choice you make depends on which things you value most. Suppose you had a choice between spending a day by yourself, with your family or with your friends. Your decision would depend on whether you value your privacy, your family or your friends most highly.

Each time you buy something, you make a value decision. You decide that you value the item more than the money it costs.

If you share a dwelling with others, you will find that some of your values are not alike. In this case, the values you do have in common will control the thinking and actions of the group. These shared values will influence your housing decisions.

### The relationship between needs and values

Your needs and values are closely related. For example, you need a place to sleep. Sleep is a primary need. A cot in a small room can satisfy this need. But the cot may not meet

your value of comfort. If you have a choice, your value of comfort will cause you to choose a bed rather than the cot.

You also need space in the small room for activities other than sleeping. Your values will determine whether you choose a large, comfortable bed or a small bed which would allow more space for your activities. The beds shown in 1-2 and 1-3 may offer less than your ideal for comfort, but they are more comfortable than a cot. At the same time, they leave space for your activities.



1. Physical needs. Your physical needs, such as food, water, shelter and clothing, must be at least partially satisfied before you can think about anything else.
2. Security. Next, you need to feel safe in your surroundings and to know what to expect. You need protection from physical harm and economic disaster.
3. Love and acceptance. At this point, you will do many things to gain affection. You need to be praised and accepted by others. A small failure can make you feel rejected as a person. You need much support, assurance and personal warmth.
4. Esteem. Not only do you want to be liked, you also want to be respected. In this way, you gain confidence and feel necessary in the world.
5. Self-actualization. To reach this level, all other needs must be fulfilled to some degree. Your need is to develop your full potential. You learn because you want to be a "fuller" person. You have pride and self-respect. You can show individuality despite social pressures. You have your own opinions and are able to express them. (Adapted from Abraham H. Maslow, "Motivation and Personality" New York: Harper & Rowe, 1954.)

*I-1 Maslow shows the priority of human needs by arranging them in the shape of a pyramid.*

## SATISFYING NEEDS AND VALUES

Housing can help to satisfy many of your needs and values. In fact, housing can be adapted to improve nearly every aspect of life.

### Shelter

One of the primary human needs is *shelter*. This need has always been met by a dwelling of some type. The earliest dwellings were in natural settings such as caves and overhanging cliffs. The cliff dwelling in 1-4 was once a shelter for Indians. In 1-5, you can see the entrances to caves that were used for shelter by shepherds 2000 years ago.

The cave and cliff dwellers found their housing to be warm in the winter and cool in the summer. Cold winds and hot sunlight could not reach them.

Later, crude dwellings were built for protection from the weather. People often shared a dwelling with their livestock. In this way, they were all protected from the weather. The body heat of the animals helped keep the shelter warm.

These simple dwellings were built from the handiest materials to be had. Arctic Eskimos used snow and ice to build igloos. See 1-6.



1-2 To save space, the bed in this room is folded to become a sofa during the day.

The igloo, or snow house, protected those inside from the extreme cold and stinging snowstorms.

Look at the winter and summer dwellings of an Apache Indian family in 1-7. The

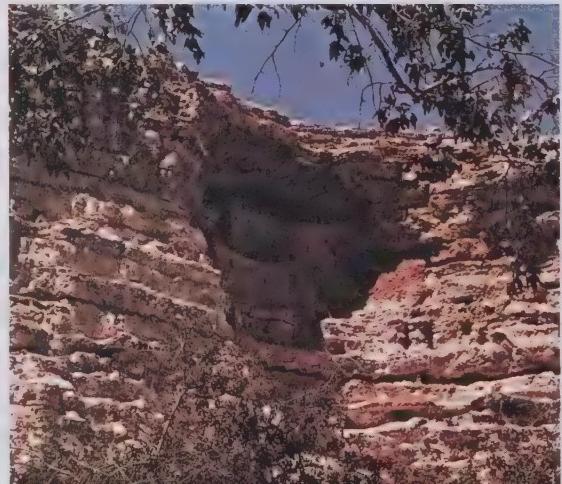


AMERICAN DREW, INC.

1-3 Bunk beds leave more floor space for other activities.

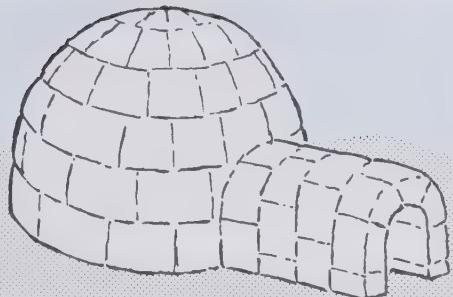
1-4 This large cliff dwelling called Montezuma Castle is located in central Arizona. Indian farmers probably lived there over 1000 years ago.

W.H. TROXELL





I-5 The Qumran Caves shown here are located near the Dead Sea. For centuries, they have given shelter to shepherds and their flocks.



I-6 An Eskimo igloo is made of large snow blocks. The dome-shaped structure has a single room that is about 30 ft. (9 m) in diameter and 10 ft. (3 m) high.



WESTERN WAYS FEATURES

I-7 The housing of Apache Indians is a clue to their way of life. Here you see a summer home that is under construction. A sturdier winter dwelling is shown in the background.

summer home is built of branches. It offers protection from the scorching sun. Yet the breezes can circulate through the branches. The winter dwelling offers more protection.

Some present-day Bedouins (nomadic or wandering Arabs) still use tents such as the one pictured in 1-8. These simple dwellings can be taken apart and carried from place to place. This is important since the family or group travels continually, searching for food.

### Food

The location and form of a dwelling were often related to another primary need — *food*. People built their shelters near sources of food. They also used their dwellings to store food. Many primitive people prepared and ate their food outside their dwellings.

Today, we still have outside areas for food preparation and eating. Some homes, such as the one in 1-9, are designed with this in mind. Areas within dwellings are also set aside for these purposes. See 1-10 and 1-11 for ways to provide space for cooking and eating.

### Air

Your body needs oxygen from the *air* to survive. Every day you breathe about 16,000 quarts (15,142 litres) of air.

Unfortunately, humans pollute the air. The first person to do so was probably the cave dweller who discovered fire, 1-12. Wood smoke did not harm the air greatly. However, every new generation has used and abused this discovery. As a result, air pollution has increased. The once thin column of smoke has become a huge, ugly cloud. In 1-13, the levels of air pollution in New York are shown. Conditions like this exist throughout the United States.

Many people feel uncomfortable unless the air smells fresh and is moving freely. Your own preference for the amount of air circulation may differ from that of other people. Some people do not like a draft, while others do not mind it. You may have a high or a low tolerance (ability to accept or endure) for odors and other pollutants in the air. Can you think of some odors that do not bother you



1-8 *The Bedouin tent is fashioned from a frame of poles and ropes. These are covered with cloth of goat hair. The tent is divided into separate quarters for women and men. They sit and sleep on cotton quilts.*



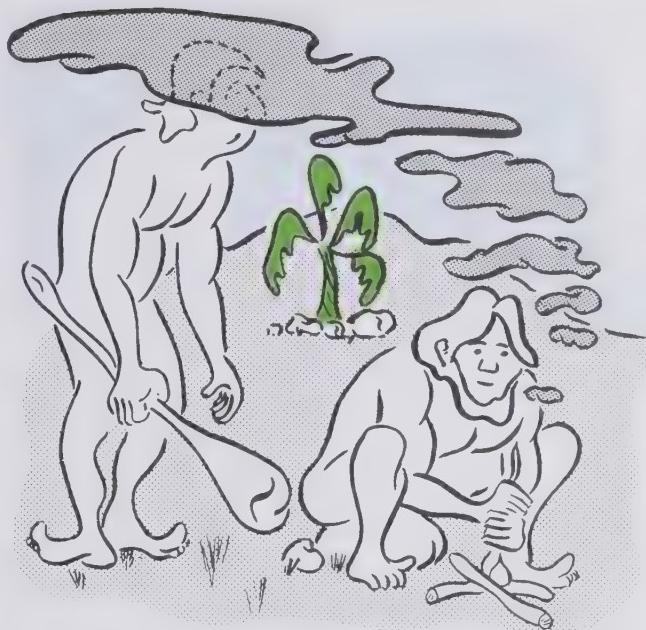
1-9 *This home has both indoor and outdoor eating areas.*

PPG INDUSTRIES



GENERAL ELECTRIC CO.

**I-10** For convenience, meal preparation and eating areas are kept close to each other.



NEW YORK STATE DEPT.  
ENVIRONMENTAL CONSERVATION

**I-12** Air pollution began with simple cave fires.



AMERICAN DREW, INC.

**I-11** In many dwellings, a separate dining room provides a place for eating.

but that irritate your friends? Or do smells offend you more than they offend your friends?

**Conditioning the air.** You can condition the air in your microenvironment with a climate-control system. In 1-14, a *heat pump* is shown. This type of climate-control system can heat or cool the air in a building. Interest in the heat pump is growing because it uses less fuel than many other types of air conditioners. It can also be used to clean and circulate the air and to control the amount of humidity (moisture) in the air. Look at 1-15 to see how a heat pump works.

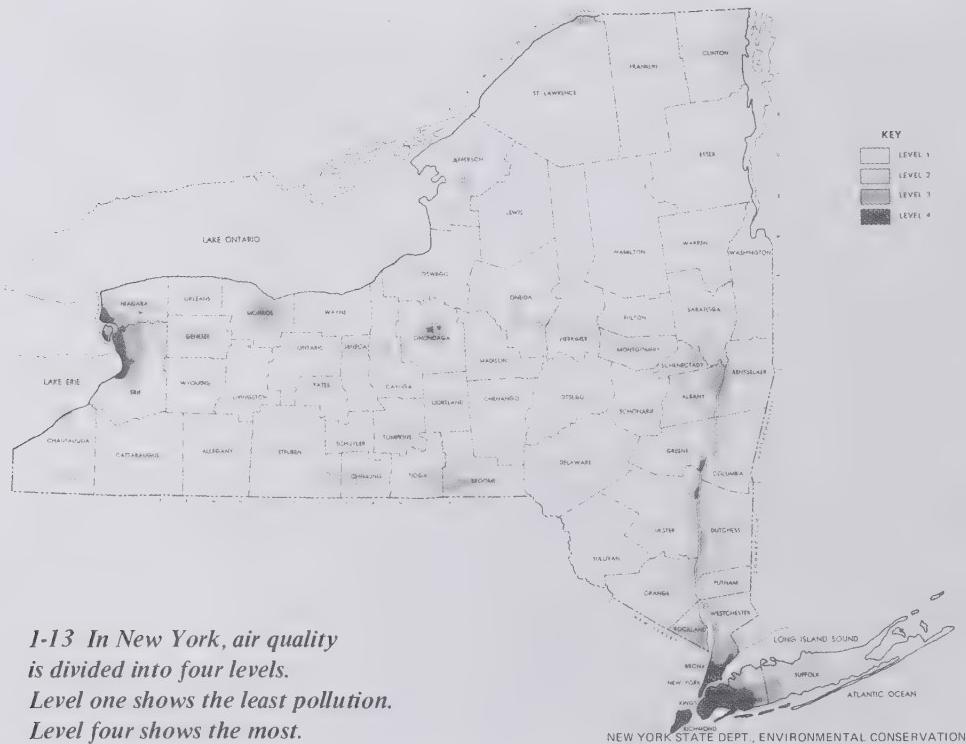
*Electronic air cleaners*, as the one in 1-16, clean the air in homes, offices and other buildings. The air cleaner removes the particles that cause air pollution.

## Water

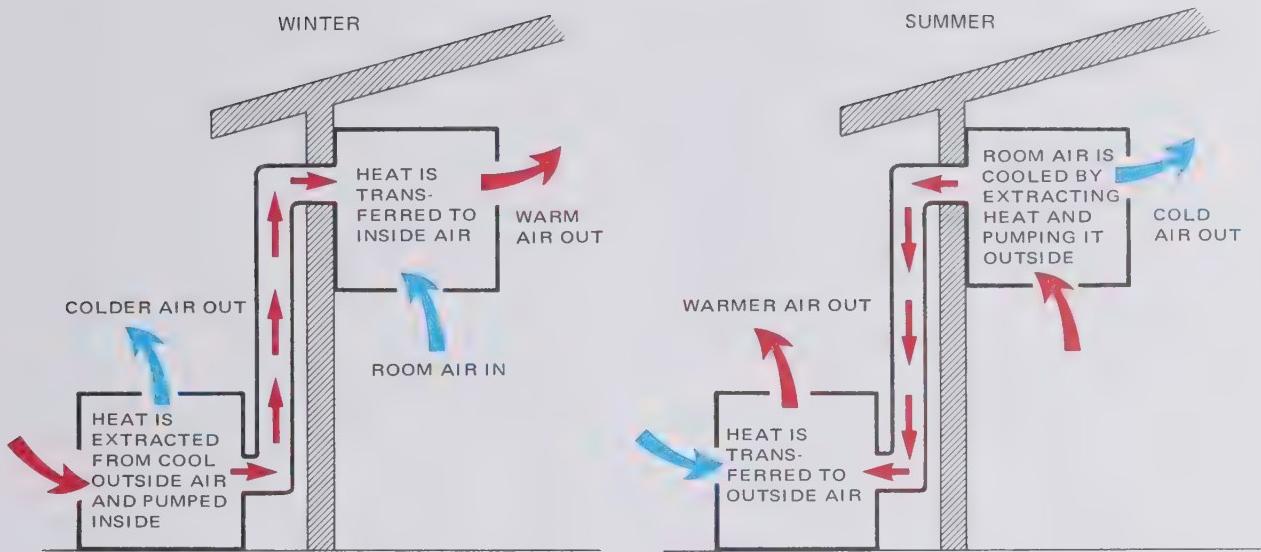
Pure water is needed to sustain life. Plumbing systems bring fresh water into buildings and remove it when it has served its purpose.



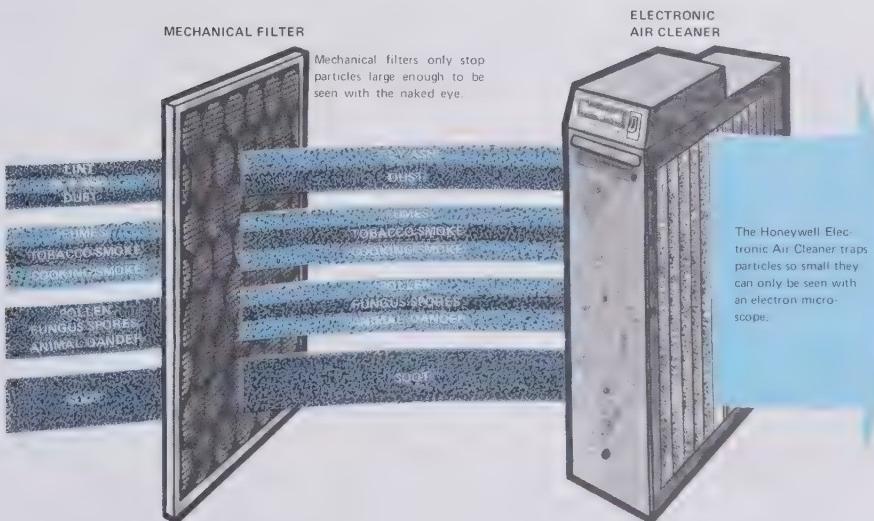
DEL E. WEBB DEVELOPMENT CO.



*1-13 In New York, air quality is divided into four levels. Level one shows the least pollution. Level four shows the most.*



**I-15** In winter, a heat pump absorbs solar heat and carries it inside. No matter how cold it is, some solar heat is available. In summer, a heat pump absorbs heat from inside a building and pumps it outside.



**I-16** The electrostatic method of removing particles found in the air is used in homes, offices and other enclosed spaces. After the air has passed through the cleaner, it is circulated throughout the area.

Wells and community storage tanks supply people with cold water which fulfills their need for water. But most people value the convenience of having both hot and cold water available from faucets. To satisfy this value, almost all dwellings have a water heater.

The heavy use of water is causing a shortage in some parts of the country. Therefore, recycling water for personal or industrial use is now becoming common.

**Controlling humidity.** Water that is absorbed into the air as vapor is called humidity. Very high or very low humidity makes people feel uncomfortable.

Some dwellings have been designed with humidity control in mind. In the tropics, many dwellings are open to the air and built on stilts. This design allows air to circulate freely under and through the buildings. Good air circulation and breezes help make the high humidity of the region less uncomfortable.

**Humidifiers**, 1-17, add the desired amount of moisture to the air in a building. **Dehumidifiers** remove excess humidity. Some air conditioning systems include humidity-control features. The heat pump, described earlier in this chapter, is one such system.



THE WEST BEND CO.

1-17 This portable humidifier can humidify a seven-room house.

## Security

Housing should offer *security* from physical danger. It should also help you feel safe and protected from the unknown.

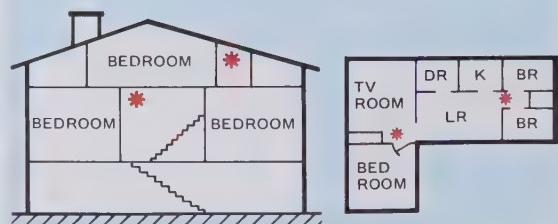
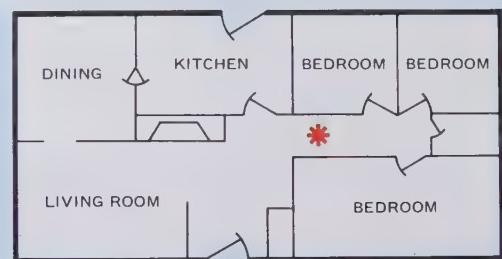
Living in a dwelling that is well-built and in a neighborhood that is free of crime can help you feel secure. However, to satisfy your need for security, you should include some protection devices in your home.

**Security from fire.** Home fires are one of the most serious types of accidents. They can cause bodily injury or death as well as costly damage to property. *Smoke detectors* give immediate warning if a fire starts. The diagrams in 1-18 suggest good locations for smoke detectors.

*Fire extinguishers* are a safety feature that should be in every home. They are classified according to the type of fire they can stop, 1-19. They should be located where they are easy to use. See 1-20.

**Security from burglars.** A private residence is burglarized every 15 seconds in the United States. You can take some precautions to prevent this from happening to you.

You should have a way to see someone at the door without opening it. A peephole or a



1-18 Smoke detectors should be placed throughout a dwelling.

HONEYWELL

chain lock permits you to do so. Other security precautions include using outside lighting at every entrance to your home and having secure locks on all doors and windows. You can also install an alarm system, as the one pictured in 1-21.

## Space

All people have *spatial needs*. That is, they need some amount of physical space around them. They do not like to feel crowded. To gain distance, they create invisible boundaries around themselves. The size of the boundaries varies with each person. It is influenced by many factors. Personal feelings and family backgrounds have a great effect on it. In

## CLASSES OF FIRES

### CLASS A FIRES

Fire in ordinary combustible materials . . . fires involving paper, wood, cloth and many plastics.

### CLASS B FIRES

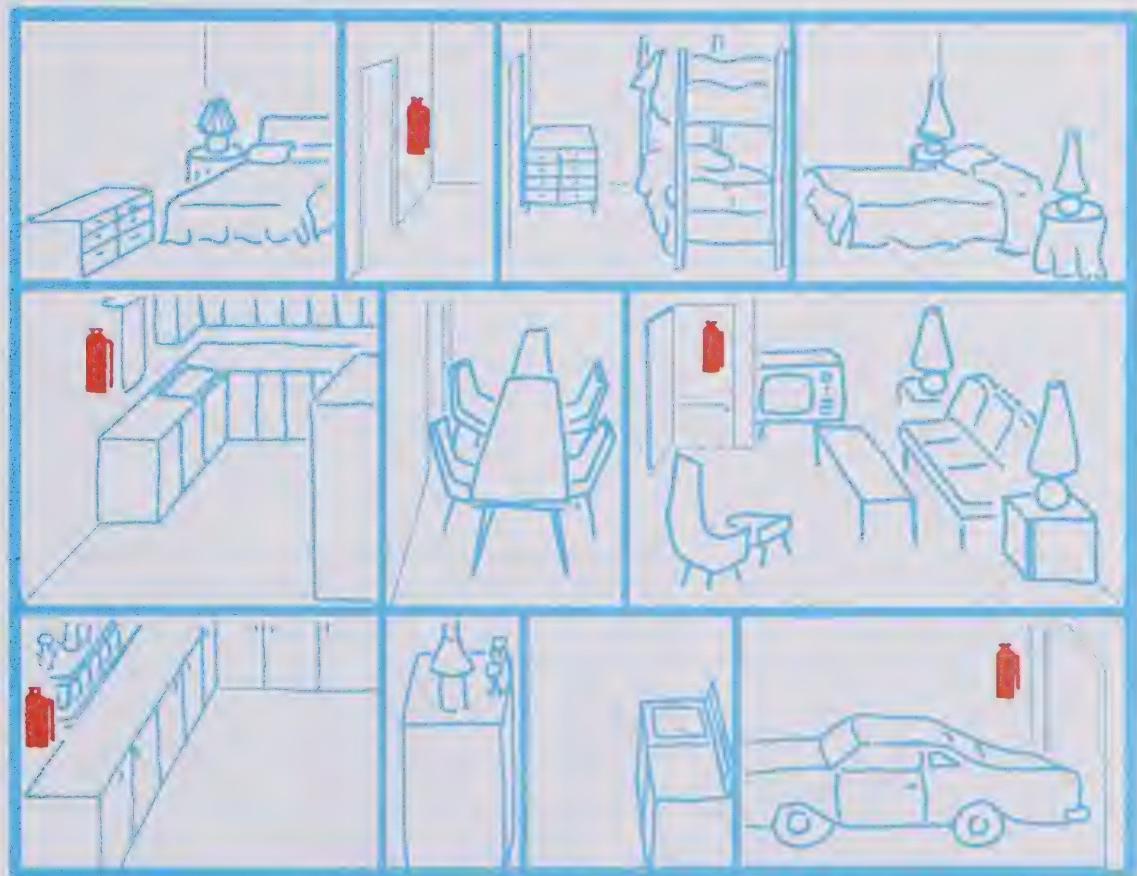
Fire in flammable liquids, gases and greases . . . a flash fire in your frying pan or oven, or in paint or solvents.

### CLASS C FIRES

Fire in electrical appliances and equipment . . . fire caused by faulty wiring, as in a TV.

GENERAL SERVICES ADMINISTRATION

*I-19 Some fire extinguishers are designed to stop a particular class of fire. Others, called ABC-rated extinguishers, can stop all three classes of fires.*



*I-20 Fire extinguishers should be in plain view and accessible.*

GENERAL SERVICES ADMINISTRATION

general, people with a Middle European, Italian, French or Spanish background need less space than those with an English, Scandinavian, German or Belgian background.

Hobbies and activities also influence spatial needs. People who like to garden need a large backyard. People who enjoy having many friends near them need more space for entertaining. On the other hand, too much space can make people feel lonely.

Spatial needs are further influenced by the way space is used. In places where space cannot be added or removed, the right furnishings can make the space seem larger or smaller. A room of almost any size can be satisfying if the space is used to its best advantage. By changing the furnishings, a crowded, confining room can become a spacious, airy one. Likewise, a large, lonely room can become warm and cozy.

**Territory.** Humans require many kinds of space. Territory, as pictured in 1-22, is one type of space. It is your "home ground." It offers freedom from trespassers and freedom to roam. Fences and property laws protect your territory. This space gives you a feeling of safety. It becomes part of your identity. It makes you feel secure and "at home."

You also need territory within your home. This is the space within the dwelling that you can call your own. Your territory could be your bedroom, or perhaps just one special

part of the room that is for you alone.

When you sit down for dinner, do you always sit in the same chair? If so, that place is another of your territories.

Perhaps your parents have special chairs in some part of the home. The chairs are reserved for their use because everyone else knows the chairs are their territories.

**Flight distance.** Another type of space is flight distance, 1-23. A person needs to be free of a feeling of being overcome or threatened by others. When you wish to put distance between yourself and others, you need flight distance. This space gives you room to take defensive action. Have you ever walked on the other side of the street to avoid meeting someone? If you did, you used flight distance.

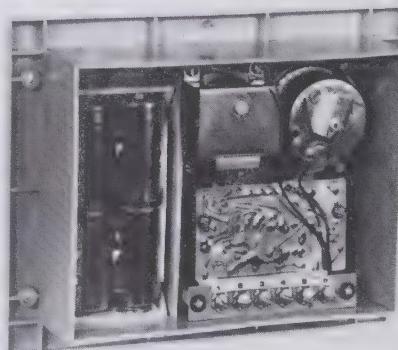
**Social distance.** Social distance is illustrated in 1-24. It exists only in your mind. Thus, the distance is imagined, not real.

Your social distance allows you to stay in touch with others. It extends to include everyone with whom you communicate. Thus, if you write to a friend who lives in England, your social distance extends across the Atlantic ocean. At the same time, it may not even extend across the street if you do not communicate with neighbors.

**Personal distance.** Each person is enclosed in an invisible "bubble" called personal distance, 1-25. This is the normal space you



MASTER CONTROL PANEL



SOLID-STATE ELECTRONICS

*I-21 A burglar alarm gives notice when an intruder enters your home.*



*I-22 Territory is the space you can call your own. You claim it and defend it. The birds claim the birdhouse and the surrounding areas as their territory. What do you have that means the same thing to you?*



*I-24 Social distance allows you to feel close to others, not only when they are with you, but also when they are far away. Since birds can communicate only when they are together, their social distance is limited.*



*I-23 Flight distance is the space you need to feel safe from the threat of others. The birds have taken flight because an enemy, such as a cat, has come too close for them to feel safe. Is there someone or something that would make you flee if you were approached too closely?*



*I-25 Your need for personal distance varies from that of anyone else. It also varies according to where you are and what you are doing. The birds do not mind others with them as they bathe. In other activities, such as hunting for food, they prefer to be alone. For which of your activities do you need extra personal distance?*

keep between yourself and others.

The size and shape of your personal distance “bubble” change constantly. The occasion and the people who are with you affect the amount of space you need. Sometimes you want to be far away from other people. At other times, you want to be near them and to touch them.

To see how much personal distance you need for a normal conversation, try this test with a classmate. Stand across the room from each other, and begin a conversation. Slowly walk toward each other as you talk. Notice how your feelings change as you come closer together. At what distance do you begin to feel uncomfortable?

### Privacy

You need *privacy* to maintain good mental health. Sometimes you need to be completely alone. You need to be where others cannot see or hear what you are doing, and where you cannot see or hear others. At other times, you just need to be able to think, daydream, read or study without being disturbed.

Since your need for privacy varies, it can be satisfied in many ways. One of the most extreme ways to achieve privacy is to live alone in a dwelling that is set apart from other

buildings, 1-26. Another way is to have a private room or some other private place where people enter only when they are invited. See 1-27.

You may not be able to live alone or to have a private room. You can still fulfill your need for privacy. Doing a task that must be done alone, such as mowing the lawn, provides some privacy. Driving alone in a car isolates you from others. A chair that is set apart from other furnishings in a room can be a private place for you. Hobbies that require you to concentrate, such as woodworking or playing a piano, can free you from other



1-26 This house on a riverbank provides privacy for its occupants.

LA MARR HUBBS



1-27 When this boy reaches his tree house, he can pull the rope up after him. He will have privacy since others cannot enter.

H.L. ROLF

thoughts. Even the sound of a vacuum cleaner can give you some degree of privacy by isolating you from all other sounds.

### Social interaction

Sometimes you need privacy, but sometimes you need to be with others. Since humans are social by nature, you have a need to be close to and involved with other humans. You need *social interaction*. This need began at birth and will continue until you die.

Your housing serves as a background for social interaction. Your neighborhood and community influence the way you interact with others. Even the layout of the lots or sites in your neighborhood affects interaction. This layout affects the opportunities you have to meet and visit with your neighbors.

Some areas within a dwelling are designed to encourage social interaction. Most living rooms, family rooms and patios provide a relaxing atmosphere which sets the stage for interaction. The furniture in these areas is arranged so that persons can talk to one another without shouting, as in 1-28. Since mealtime is often a social time, most eating areas are also designed to make conversation easy.

### Family unity

You value *family unity* if you consider the health and well-being of your family as a whole to be important. A "tightly knit" family values family unity. Decisions in this kind of family are made to benefit all family members, not just one.

When family unity is valued, several areas of the home are designed for group living. The home may include a family room, as in 1-29, where the whole family can take part in activities. Other families may have an outside area for recreation, 1-30. However, even a chair can provide a place to meet the value of family unity. See 1-31.

### Economy

People who place a special emphasis on cost hold the value of *economy*. Cost can be

in terms of either money or effort.

Housing costs *money* whether you rent or buy a home. The furnishings and equipment you put into that home cost money. Utilities such as electricity, gas and water cost money. And caring for the home costs still more money in the form of maintenance and repair bills.

If you value economy, you will buy only the furnishings and equipment you really need. You will use conservation methods such as turning off lights in empty rooms and setting thermostats at moderate temperatures to reduce your utility bills. You will also try to keep your home in good shape since maintenance bills almost always cost less than repair or replacement bills.

*Effort* costs in housing are high, since everything you do takes some amount of



THOMASVILLE FURNITURE

**I-28 The furniture in this room is placed closely together to encourage social interaction.**

effort. Washing dishes, making beds, scrubbing floors, dusting furniture, washing windows, painting walls and mowing grass are only a few of the many home tasks that require effort.

Although the tasks cannot be eliminated, effort can be economized. Dwellings can be designed for efficient use of effort. For maximum efficiency, the cabinets for the storage of dishes should be near the sink or dishwasher. The linen closet should be near the bedrooms. The equipment needed for scrubbing floors should be stored in or near the rooms with floors that need to be scrubbed. The list could be continued, but you can see that efficiency and orderliness can save effort.

Compare the dwellings shown in 1-32 and 1-33. Which one requires greater cost in terms of both money and effort?

### Self-expression

Showing your true personality and taste is called *self-expression*. Do you enjoy collecting special things such as rocks or coins? If so, you are careful to choose just the right ones. You polish them until they shine. You may want to arrange them in some order and show them to your friends. All of these activities are ways you express yourself and your interests.

Your housing gives you an outlet for self-expression. For instance, the colors you use to decorate your home can be a clue to

KIRSCH CO.



*1-29 A family room like this one is often found in homes where family unity is valued.*



DANNY CLEVENGER

*1-30 A place for outdoor family recreation provides opportunity for family unity.*



GEORGE GALE

*1-31 The value of family unity can even be satisfied in a big chair.*



H.L. ROLF

*1-32 The people who live in this dwelling value economy more highly than the people who live in the house shown in 1-33.*



EUGENE BALZER

*1-33 This dwelling was built on a large lot with a split-rail fence. Economy is not valued highly by the people who live in it.*

your personality. If you have an outgoing, vibrant personality, you can show it by using bright, bold colors inside your home. If you have a quiet, subdued personality, you can show it by using pale, soft colors. Furnishings can also help you express yourself, as illustrated in 1-34.

### Creativity

*Creativity* is having new ideas. You show creativity when you express your new ideas to others.

Primitive people showed creativity when they carved pictures in cave walls to tell stories. People still create pictures, stories and poems. Today, many pictures are made using cameras, while others are made using oil paints, watercolors or charcoal. Some of the new stories and poems are published in books. Others are set to music and recorded on tapes or discs.

Pictures, stories and poems are only a few of the countless ways you can show creativity. You may enjoy working with flowers. You can arrange the plants so that your flower garden has a special design. Or you may want to make flower arrangements, 1-35. Other ways to show creativity are illustrated in 1-36 through 1-39.

### Beauty

Self-expression and creativity can help you add beauty to your microenvironment. *Beauty* is a quality that makes things pleasing to the eye. Another word for beauty is *aesthetics*.

Beautiful surroundings, as shown in 1-40, can make you feel good and release you from tensions. This is why beauty is an important factor in housing.

Your concept of beauty is unique. The things that appear beautiful to you may not appear beautiful to someone else. In fact, they may not even appear beautiful to you after a while. Your concept of beauty changes as you grow and develop. Do you and your close friends see beauty in the same objects? Do your family members agree?



ARMSTRONG CORK CO.

*1-34 This room demonstrates how furnishings can be used as a form of self-expression. The occupants obviously enjoy the sea and sailing.*



DANNY CLEVINGER

*1-35 Making beautiful flower arrangements is one way to show creativity.*



JANET SMITH

**I-36** A creative person may use crewel embroidery to produce a lovely floral design. This one will be framed and hung on a wall.



WESTERN WAYS FEATURES

**I-38** Rug weaving is a creative outlet and a source of income for Navajo Indians.



WESTERN WAYS FEATURES

**I-37** Artist Ted DeGrazia displays his creativity by painting murals.



ELMER NIX

**I-39** Items collected during travels can be displayed in creative ways. These souvenirs from Africa decorate the wall of a family room.

## Esteem

You need to be *esteemed* by others. When you are esteemed, you are respected, admired and held in high regard. Your housing tells other people something about you and can help you gain esteem. A home that is clean, neat and attractive will gain the approval and esteem of others.

You also need *self-esteem*; you must think well of yourself. Your self-esteem is affected by the way you feel about your housing. A pleasant, satisfying home in which you enjoy living can help you gain self-esteem and confidence.

## Prestige

*Prestige* means having a favorable position in the eyes of others. Prestige is closely related to esteem, but prestige is a more powerful term. It is associated with fame, influence, prominence and authority.

Housing can give you prestige. It can help you show that your status (rank or position) in society is high. If you value prestige highly, you will want others to recognize your home as being something special.

A word of caution is needed in regard to

prestige and housing. You should be careful not to make too many assumptions based on the appearance of the housing of others. You may get the wrong impression since your values are different than those of other people. For instance, something that others view as giving them prestige may seem very insignificant to you. On the other hand, something that is simply a source of comfort to others may seem very prestigious to you.

Look again at 1-8. The tent that provides shelter also tells the status of the Bedouins who live there. A large number of long poles shows prosperity and is a sign of prestige. Bedouins who are very prosperous also have highly decorated curtains or tent coverings. In the United States, a swimming pool helps many people satisfy their value of prestige, 1-41. Long poles and swimming pools may seem very different, but both show prestige.

## HOUSING FOR SELF-ACTUALIZATION

Housing can help you satisfy many of your primary needs, secondary needs and values. It can offer opportunities for you to satisfy your ultimate need of self-actualization. How-

THOMASVILLE FURNITURE

*I-40 Beauty in a room can help you feel happy, content and peaceful.*



ever, satisfaction through housing does not occur by mere chance. You need to think about it, plan for it and act to achieve it.

The following true story shows how events and planning can go together to allow for self-actualization:

Two young women found jobs in a new community. When they met each other at work, each learned that the other was hunting for a place to live. The housing shortage and the unfamiliarity of the area caused them to set out on their search together.

They rented a summer cottage that was vacant for the winter. It stood in a forest a few miles from the city in which they worked.

The forest setting appealed to both of them, so when a nearby piece of land

was offered for sale, one of the women bought it. Then they bought an old house in the city that was about to be torn down to make room for expanding businesses. They had the 50-year-old house moved to the newly-acquired site. See 1-42.

The two women got along well because they had similar interests. One of the interests they shared was antiques, so they decided to restore the old house and refurnish it with antiques. They paid frequent visits to second-hand stores, garage sales and antique shops.

They spent hours refinishing wood-work and floors. They cleaned and re-finished old trunks, chests and bedsteads. They also came up with many creative decorating ideas. One idea was



SUN VALLEY POOLS

*1-41 A house with a swimming pool helps some people fulfill their value of prestige.*

to use fabric instead of wallpaper on the walls of a bedroom. (The same idea is illustrated in 1-43.)

The women did all their cooking on a wood-burning range, 1-44. Wood-burning heaters, 1-45, and a fireplace in the living room gave warmth to the home.

The outside of the dwelling provided more opportunities for satisfaction. They spent a great deal of time outdoors cutting firewood, taking long walks and enjoying the scenery. They built bird and animal feeders near their house, inviting the forest dwellers to visit them.

The women also took advantage of the beautiful mountain peaks in the distance. When they moved their house to the forest setting, they were careful to place it so they would have a good view of the mountains, 1-46.

Restoring and furnishing the old house took much thought, planning and effort. It gave these women a chance to do what they enjoyed. They did the very best job they could. Their decision to tackle the job of restoration provided the opportunity for self-actualization.

As you read the story about the two women, did you notice how many of their needs and values were satisfied by their housing? Would a similar housing situation satisfy your needs and values? If not, what kind of housing situation would satisfy them?

What opportunities for self-actualization does your present housing provide? Does it give you the freedom you need to develop your interests and to do the things you enjoy doing? If you had the chance, how would you change your housing to better meet your needs and values?



*I-42 This house was moved from a city location and restored. The view from the second-story window is shown in 1-46.*

EUGENE BALZER



MARTEX - WEST POINT PEPPERELL

**I-43** Extensive use of fabric creates a unified look in this bedroom. Sheets are used on the bed and to cover the walls, headboard and chair.



EUGENE BALZER

**I-45** A wood-burning heater adds to the cozy feeling of the dining room.



EUGENE BALZER

**I-44** Cooking is done on this wood-burning range.



EUGENE BALZER

**I-46** A huge bedroom window provides a fantastic view of the mountains.

# *to* Know

aesthetics . . . air . . .  
beauty . . . creativity . . .  
economy . . . electronic air  
cleaner . . . esteem . . . family  
unity . . . flight distance . . .  
food . . . heat pump . . .  
housing . . . humidifier . . .  
microenvironment . . . personal  
distance . . . prestige . . .  
primary needs . . . privacy . . .  
secondary needs . . . security . . .  
self-actualization . . . self-  
expression . . . shelter . . .  
smoke detector . . . social  
distance . . . social  
interaction . . . space . . .  
spatial needs . . . territory . . .  
values . . . water

# *to* Review

Write your answers on a separate sheet of paper.

1. The word housing refers to the dwelling and what is \_\_\_\_\_ and \_\_\_\_\_.
2. Housing is your:
  - a. Microenvironment.
  - b. Macroenvironment.
  - c. Total environment.
3. Name four primary needs for people.
4. Secondary needs are generally \_\_\_\_\_ or \_\_\_\_\_ in nature.
5. Describe persons who have satisfied their need of self-actualization.
6. Explain the term value.
7. List three factors that influence spatial needs.
8. The normal space you keep between yourself and others is called:
  - a. Territory.
  - b. Flight distance.
  - c. Social distance.

- d. Personal distance.
9. Describe five ways to achieve privacy.
10. People who place a special emphasis on cost hold the value of:
  - a. Esteem.
  - b. Self-expression.
  - c. Prestige.
  - d. Economy.
11. Give three examples of ways housing can let you show your creativity.
12. If you are held in high regard, you are \_\_\_\_\_.
13. Give an example of how housing can help you satisfy your need or value of:
  - a. Security.
  - b. Social interaction.
  - c. Self-expression.
14. Given the chance, how would you change your housing to better satisfy your need of self-actualization?

# *to* Do

1. Work with other members of your class to make a bulletin board display. Draw a large pyramid like the one in I-1. Find or draw pictures that show how housing can meet the different kinds of needs.
2. List in order of importance your needs and values that are satisfied by your housing.
3. Make a collage showing various types of dwellings used throughout the United States.
4. Use the "ice cube test" to determine whether or not your classroom or a room in your home needs humidification. (The room should not be the kitchen, since cooking vapors may give an increased humidity level.) Room temperature should be 72 to 75 deg. F (22.2 to 23.9 deg. C) for the experiment. Drop three ice cubes into a glass, add water and stir. If moisture does not form on the outside of the glass in three minutes, humidification is needed.
5. Find out how to use a fire extinguisher.
6. Make a written or oral report of spatial needs of humans.
7. To study how persons react to changes in their microenvironment, try these experiments:
  - a. Change the climate conditions of a room by heating pans of water, opening or closing windows, using fans, raising or lowering temperatures.
  - b. Change the amount of space per person in a room. First crowd the people together; then give them a lot of space. (One way is to place chairs closely together, then place them far apart.)
8. If you have permission, rearrange furniture in some part of your house or yard so that someone has more privacy. Report to the class about your actions and the results.
9. Have a class discussion about ways housing can encourage social interaction.
10. What are your favorite activities and hobbies? In what way does your housing allow you to pursue them?
11. Divide into small groups. Make a list of the ways housing can help meet the value of prestige. Compare your list with those of other groups.

# Housing and life situations

*After reading this chapter, you will be able to explain how your housing is affected by all of your life situations. These include the people with whom you live, your stage in a life cycle, your life-style, your socioeconomic status and your physical condition.*

**C**ountless circumstances affect you and the way you live. These circumstances are called *life situations*. They are related to every aspect of your life. They set the stage for the way you interact with other people and with your housing.

## Living units

Persons who share the same living quarters are called a *living unit*. The size of a living unit can vary from a single person to hundreds of persons.

The one-person living unit may be someone who has never married. Or it may be someone whose marriage has ended because of the loss of a husband or wife through death, desertion or divorce.

Although some single people live alone, others are part of larger living units. A college residence hall, 2-1, houses a large living unit of single people. Nursing homes house large living units of elderly singles.

Some adults are the heads of *one-parent families*. In some of these families, one parent has died or left the home. Other one-parent families consist of an adult who has never married and one or more children. A one-parent family may be a separate living unit, or they may share housing with others and become part of a larger living unit.

The most common living unit is the *nuclear family*. It includes a husband and wife and their children. A married couple, even if childless, is considered a nuclear family.

A living unit is called an *extended family* when relatives share a dwelling with a nuclear family. There are two kinds of extended families. One kind consists of several generations of a family. For instance, children, parents and grandparents may live together, 2-2. The other kind of extended family consists of many persons of the same generation. Perhaps you know of extended families in which aunts, uncles and cousins all live together. A few families extend in both ways to include grandparents, parents, children, in-laws, aunts, uncles and cousins. See 2-3.

## LIFE CYCLES

As you grow, you pass through different stages of life. Each of these stages is a part of your *life cycle*. In each stage, you have new opportunities and face new challenges. You develop new needs and values. These changes have a great effect on your housing.

### Individual life cycles

Each person follows a pattern of development called an *individual life cycle*. It is divided into four main stages according to age groups:

1. Infancy.
2. Childhood.
3. Youth.
4. Adulthood.

Each stage can be divided into substages. For instance, the substages of youth are:

1. Preteens.
2. Early teens.
3. Middle teens.
4. Late teens.

In which substage do you belong? Do you have brothers and sisters in other substages or in other stages?

Eric Erikson, who is well-known for his studies of human development, views a person's development in another way. He says that humans go through eight stages of life

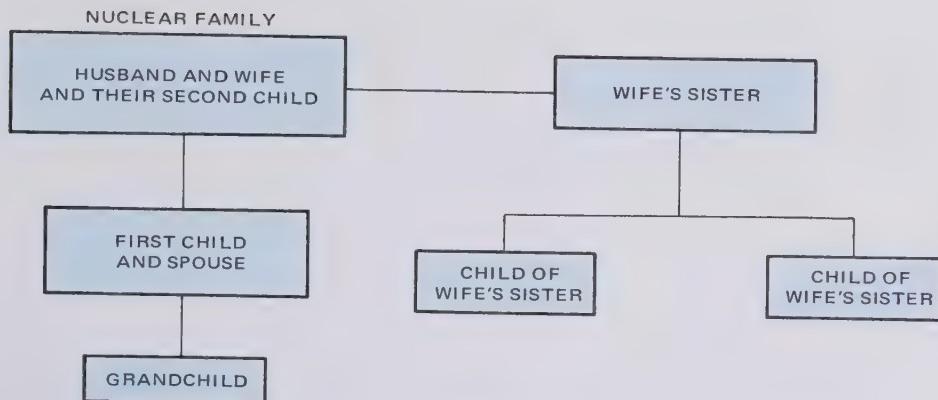
which he calls *critical periods*. In each critical period, personalities develop and change. He relates these developments and changes to the environment. For positive development, a positive setting or environment must be present. In contrast, a negative environment produces negative development. Study 2-4 to learn about the eight critical periods of development.



2-1 Students who live in a residence hall form one type of living unit.  
EUGENE BALZER



2-2 This living unit is an extended family.



*2-3 Some families are extended in more than one direction.*

CRITICAL PERIOD	AGE	DESCRIPTION	POSITIVE OUTCOME	NEGATIVE OUTCOME
1	Birth to 18 months	Children develop trust, or lack of it, in themselves, other people and their environment. Degree of trust developed depends on the quality of care they receive. If children cannot trust those who care for them, they can trust no one.	Trust	Mistrust
2	18 months to 3 years	Children want to do things for themselves. This makes them feel they are in control of themselves and their environment. They learn skills needed for survival in society. Those around them must give encouragement.	Autonomy	Shame and doubt
3	4 and 5 years	Children initiate activities on their own. Freedom to do things and to start activities help them in this stage.	Initiative	Guilt
4	6 to 11 years	Children are allowed to plan, undertake and complete projects and activities. They develop their sense of industry at school as well as at home. Praise for their efforts helps them.	Industry	Inferiority
5	About 12 to 18 years	Adolescents have new feelings and desires. They develop values — new ways of looking at life and thinking about the world. They seek to learn who they are. They take pride in achievement. Peer relationships develop.	Identity	Role confusion
6	Young Adulthood	Young adults develop the ability to share with and care about others. A close relationship with friends and/or a marriage partner develops.	Intimacy	Isolation
7	Young adult to mature adult	Adults are concerned about others outside the family. There is a special concern for children and youth.	Generativity	Self-absorption
8	Mature adult	As persons become older they can look back on their lives with satisfaction. They continue to enjoy life.	Integrity	Despair

*2-4 Erikson recognizes eight critical periods in the development of humans.*

## Family life cycles

Just as you have a place in an individual life cycle and in the eight critical periods of development, your family has its place in a *family life cycle*. A family life cycle has three stages:

1. Founding family stage.
2. Expanding family stage.
3. Contracting family stage.

The family life cycle has substages that fit into these three stages. See 2-5.

The *founding family stage* is the time the married couple is on its own. The husband and wife make adjustments to married life and to each other.

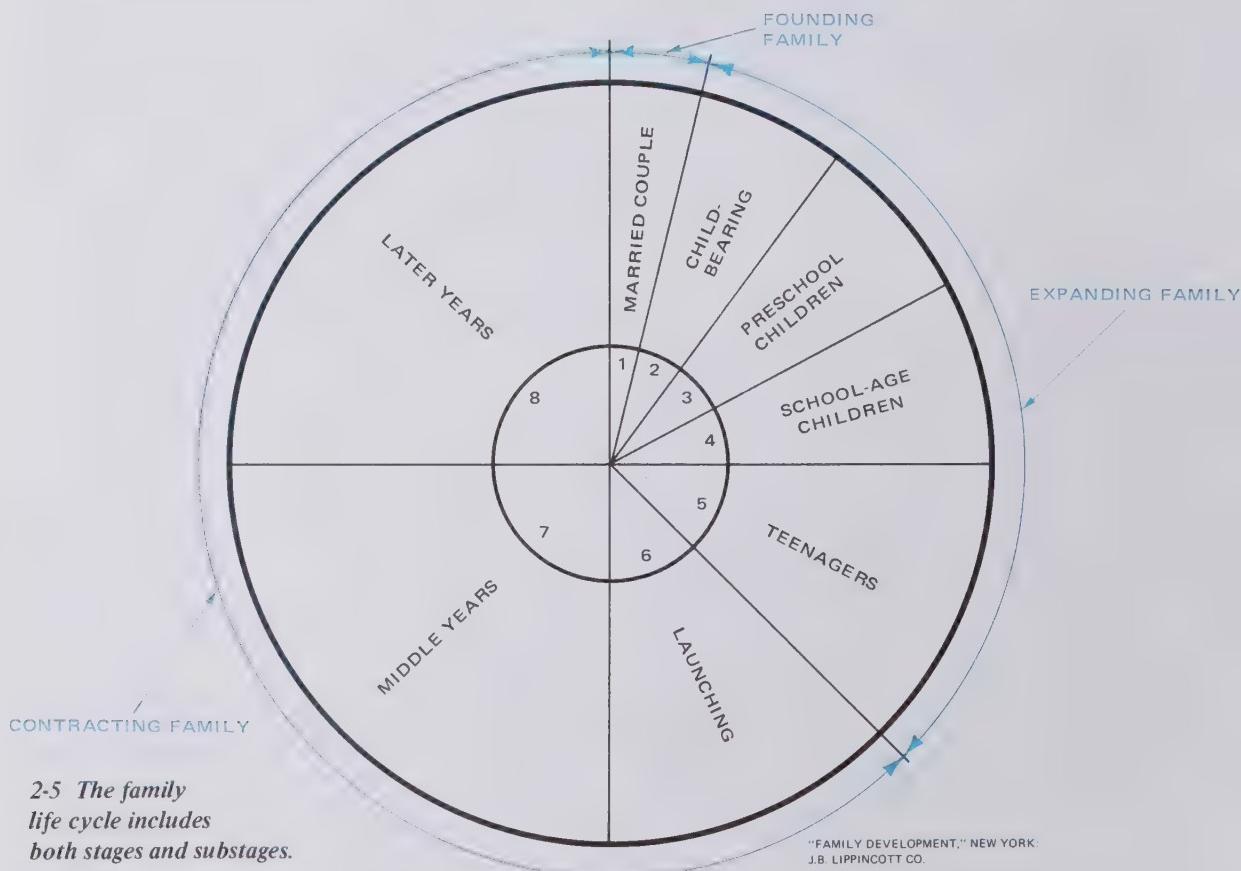
The *expanding family stage* is the time the family is growing. It includes the childbearing periods, the years of caring for young children and the school years for children and teens.

The *contracting family stage* is the time the family becomes smaller. The first substage is the launching period. This is when the children become adults and leave their parents' home. They may leave to go to college, to begin a career or to get married, 2-6.

The second substage of the contracting family is the middle years, sometimes called the "empty-nest" period. This is when all the children have been launched. The married couple is again on its own.

The final substage is the later years. During this time, either the husband or wife is usually found living alone after the death of the other.

Family groups usually include more than one substage. In some cases, the substages overlap. For instance, when a family has both a teenager and a school-age child, the family is



2-5 *The family life cycle includes both stages and substages.*

"FAMILY DEVELOPMENT," NEW YORK.  
J.B. LIPPINCOTT CO.

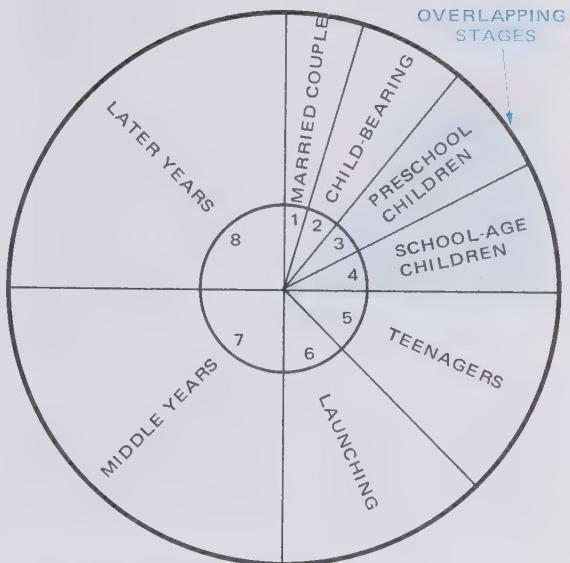
in overlapping substages. See 2-7 for another example of overlapping stages.

Other families may have gaps between the substages in their life cycles. An example of this is shown in 2-8. Another example would be a family with a school-age child in which the mother is pregnant.

### Life cycles and housing needs

As you move from one stage or substage of your life cycles to another, your housing needs change. Therefore, your place in your life cycles should be considered as you plan your housing. If you think about both your present and future needs, your housing can help you live the kind of life you want.

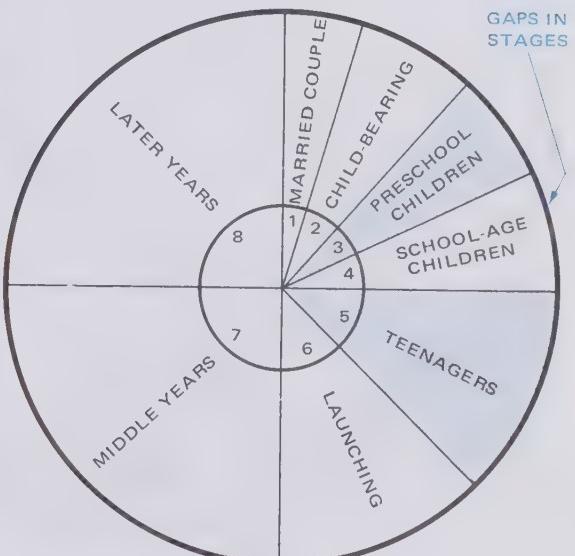
One good example of a changing need is the need for space. How much space do you need for sleeping? When you were a baby, you probably slept in something that took up very little space. In 2-9, you can see one way to meet the need for sleeping space for an infant.



2-7 In families with more than one child, substages often overlap.



2-6 These two young people have just been launched and are starting a new family life cycle.



2-8 Some families have gaps between substages in the family life cycle.

As you grew, you needed more sleeping space. You may have slept in a crib like the one shown in 2-10. Later, you may have moved to a twin-size bed, 2-11, or a bunk bed, 2-12. Bunk beds provide the same amount of sleeping space as twin beds without taking up as much floor space. Finally, you may have moved to a full-size bed as pictured in 2-13.

You also need space for your activities and space for storage. These needs for space change throughout a family's life cycle. The young married couple in the founding family stage may not need very much space. But once they enter the expanding family stage, their need for space increases greatly. During the substages of preschool and school-age children, they need room for a playpen, a crib, toys and clothes for their children, 2-14.



FRANK FOLTZ

*2-9 An infant can sleep comfortably in a small car bed.*



*2-10 As an infant grows, he or she needs more space for sleeping. A crib provides this space.*

BASSETT FURNITURE INDUSTRIES, INC.



2-11 When the crib is outgrown,  
a child could move to a twin-size bed.

FRANK FOLTZ



2-13 A full-size bed provides enough  
sleeping space for most people.

THOMASVILLE FURNITURE



2-12 Bunk beds use the floor space  
of only one bed, but they provide  
sleeping space for two people.

FRANK FOLTZ



2-14 When this boy's shoes get to be  
the size of his father's, he will need  
more storage space for all of his clothing  
and other possessions.

FRANK FOLTZ

Each new family member requires additional space, 2-15, and as each member grows, he or she requires even more space. Teenagers need space for studying and entertaining friends as well as storage space for sporting equipment, stereo equipment and clothes.

As a family moves into the contracting stage, it needs less and less space. When family members are launched, they take many of their belongings with them, leaving more space for the rest of the family. The married couple may have more room than they can use when all the children have been launched.

## LIFE-STYLES

*Life-style* means a living pattern or way of life. Every living unit and every person has a life-style. To a degree, all life-styles are alike. That is, they must all satisfy the primary needs of humans. Beyond this point, life-styles take many different directions.

Your life-style is an extension of you. It is influenced by your secondary needs, values and life cycle. It reflects your experiences, personality and goals.

The people who live in the home pictured



JOHN OEHLER

2-15 An expanding family must realize that each new member needs space.

in 2-16 value a beautiful house with expensive furnishings. Their life-style includes hosting formal dinner parties.

The cartoon in 2-17 illustrates the point that many people enjoy "roughing it." Camping may be part of their life-style. However, a family that goes camping often may have to change its life-style for a while during the childbearing substage of its life cycle.

Look at 2-18. Can you guess what type of life-style the family in that home has?

Some specific life-styles are described on the following pages. You may find that one type seems to "fit" your situation. You may see your life-style as a combination of two or more types. Or you may have a life-style that is not described in this section. Whatever life-style you have, the right kind of housing can help you make the most of it.

### Individualistic life-style

If you like to "do your own thing," you have an *individualistic* life-style. You do what you want to do. You are not concerned about what others may think. If you wanted to live



THOMASVILLE FURNITURE

2-16 The formal dining room is a clue to the life-style of the people who live in this house.



"DENNIS THE MENACE" COPYRIGHT 1977 BY FIELD NEWSPAPER SYNDICATE, T.M.R.

2-17 Some people have a greater appreciation of the outdoors than others.

in a purple house, you would paint your house purple. If you wanted to travel, you would find a way to do it, even if it meant quitting your job and selling your house.

The first owner of the Winchester Mystery House, 2-19, was a very individualistic person. Sarah Winchester was a widow who lived alone in the huge dwelling. She believed that no harm could come to her as long as work continued on the house. So 16 people worked around the clock every day of the year. The house grew until it had 160 rooms, 10,000 windows and 44 stairways.

Persons with an individualistic life-style are not all eccentric. They simply follow their inner desires and feelings without considering the praise or scorn they may receive from others.

### Influential life-style

If you like to influence (have some control over) people and events, you prefer an *influential life-style*. You are highly motivated and have a strong desire to reach goals.

Your roles include leadership. You use your resources of talent, energy and money to create and support projects. These projects may be to promote religious, civic or political activities.

Your housing should let you and your associates perform your activities in comfort. You may need a private work place or a room where committee meetings could be held. See 2-20 and 2-21. If you host large parties or receptions for your organizations, a large outdoor area would be an asset, 2-22.

If you have an influential life-style, you need housing that allows you to be efficient. You want to devote all your spare time and energy to the activities that are important to you. The kitchen shown in 2-23 was planned for convenience as well as attractiveness. Food can be prepared quickly, or even in advance, so all family members have time for committee work.

### Supportive life-style

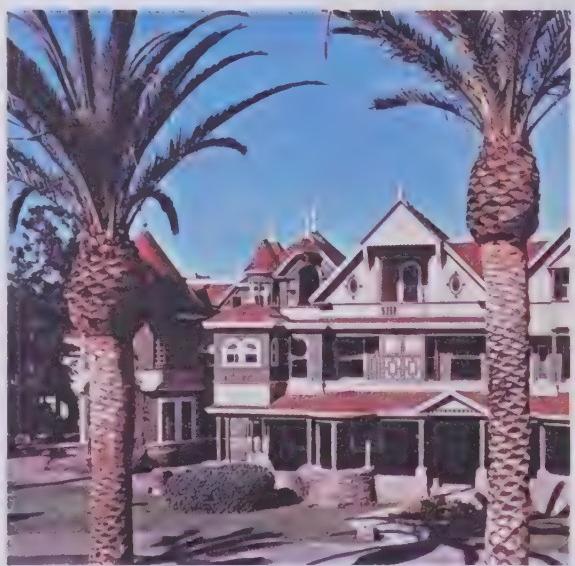
You have a *supportive life-style* if you like to help others. You may help family mem-

bers, or you may work away from home helping others. You may combine the roles of a helper at home and a wage earner outside the home. Your housing should let you support others whether your support is psychological, financial or physical.



FRANK FOLTZ

**2-18 This home is in a subdivision designed for those who own light aircraft. On the other side of the hangar is a two-car garage.**



WINCHESTER MYSTERY HOUSE, SAN JOSE, CA.

**2-19 Most windows in the Winchester Mystery House have 13 panes; stairways have 13 steps.**



2-20 A home office is needed by many persons who have an influential life-style.

ETHAN ALLEN, INC



H.L. ROLF

2-22 A big outdoor area offers plenty of room for large groups of guests to circulate freely as well as room for children to play.



2-21 This room has adequate seating for meetings of work groups and committees.

ETHAN ALLEN, INC



H.L. ROLF

2-23 Much counter space, easy access to appliances and two ovens make food preparation easier.

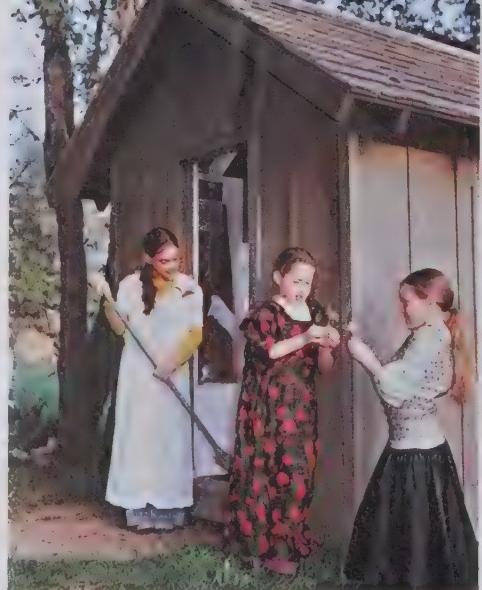
The storage wall shown in 2-24 can easily be changed into an activity center. Younger members of the family can work or play there. Meanwhile, supportive adults can be nearby, engaged in other activities.

A supportive person built the playhouse in 2-25. Look at 2-26, 2-27 and 2-28. The persons pictured have supportive life-styles. They work to improve the lives of other people.

#### Communal life-style

If you enjoy doing things with a group, you may like group living and a *communal life-style*.

Communes or "communities" vary widely. In some, members differ in age, sex and background. In others, members are very much alike. Some communes are small. They



H.L. ROLF

**2-25** The person who built this playhouse was supportive of the children who enjoy it.



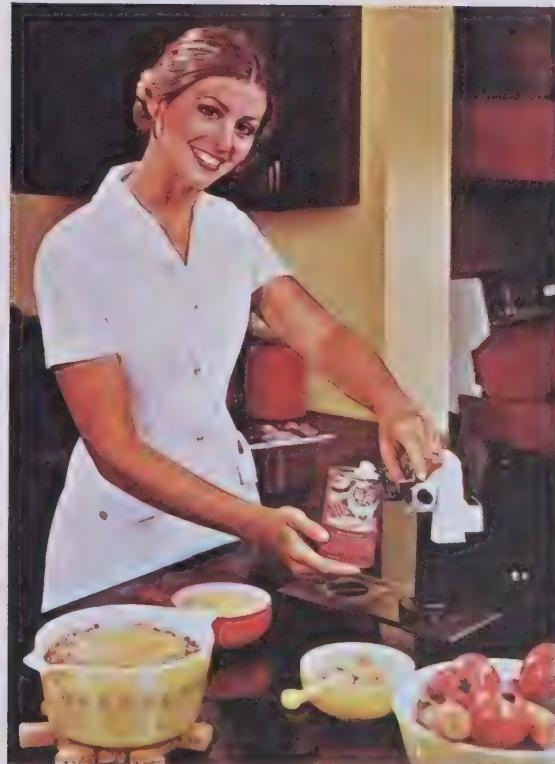
**2-24** This built-in storage unit gives easy access to toys and games.

GENERAL ELECTRIC LAMP BUSINESS DIV.



2-26 *Installing tile to reduce the noise level in the home could be considered a supportive activity.*

ARMSTRONG CORK CO.



NUTONE DIV. OF SCOVILL

2-27 *The person who prepares meals is being supportive of the living unit.*



DANNY CLEVINGER

2-28 *Most parents have a supportive life-style.*

consist of only one living unit. Others are as large as a village or town.

In every commune, the members have at least one aspect of their lives in common. They may share the same religious beliefs, the same theory of life, the same career goal or the same substage of the life cycle.

Frank Lloyd Wright's Taliesin in Wisconsin and Taliesin West in Arizona are types of communes. Their members are students of the Frank Lloyd Wright School of Architecture. The students live on campus and share the responsibilities of operating and caring for the school. On Saturday, students can be seen doing various chores, 2-29. Their communal life-style permits them to combine their education with work and daily living.

Planned retirement communities are a type of commune. The members are senior citizens who have much leisure time. Many of them have similar interests and hobbies.

A typical layout of a retirement city is shown in 2-30. It has homes, shopping centers and recreational facilities close together.

Some of the leisure activities provided in this type of commune are pictured in 2-31, 2-32 and 2-33.

### Basic life-style

Living simply and without many modern conveniences is called a *basic life-style*. Concern about the effects of pollution and the depletion of natural resources has caused some people to try this way of life.

The move to a basic life-style has called attention to new building designs and new ways of using resources. These ideas are illustrated in the work of Paolo Soleri. Soleri is an architect and philosopher who studied under Frank Lloyd Wright. In the late 1960s, he began designing, building and living in simple dwellings. By 1970, he had begun work in a remote area of Arizona on a place he calls Arcosanti. "Arcosanti" is a combination of the words "architecture" and "cosanti." Cosanti is an Italian word meaning "before things."

Native rock, sand and stone are used as



2-29 This architectural school offers the chance for a communal life-style. All students share the chores of cooking, cleaning and maintenance.



DEL E. WEBB DEVELOPMENT CO.

*2-30 Designed for retired people, this community combines housing, shopping and recreational areas.*



DEL E. WEBB DEVELOPMENT CO.

*2-32 Many retirees learn to enjoy leisure-time activities with others.*



DEL E. WEBB DEVELOPMENT CO.

*2-31 This retirement community has well-equipped arts and crafts centers.*



DEL E. WEBB DEVELOPMENT CO.

*2-33 Parties are held frequently in many retirement communities.*

building materials at Arcosanti. All the structures are placed closely together to conserve land. They are designed to use the sun for warmth and light. When the work is done, water will be recycled, and waste products will be converted into energy.

Some views of Arcosanti are shown in 2-34 and 2-35. It was one of the chosen sites for the 1976 bicentennial celebration of the United States.

Sometimes a basic life-style is forced upon a living unit. In 2-36, you can see how one couple met its primary housing needs after its home burned. At first, the husband and wife used the "temporary" dwelling because they could not afford other housing. Later, they chose to stay in the dwelling. They spent the money they could have used for better housing to travel.

## QUALITY OF LIFE

*Quality of life* is the degree of satisfaction obtained from life. Good housing provides people with satisfying surroundings and can improve the quality of their lives.

Quality of life is important to you as an individual. Just as you are unique, your concept of quality of life is unique. The things you think improve the quality of your life may not appeal to someone else.

Your housing environment affects your individual quality of life. If your housing helps you meet your needs and values, it is adding satisfaction to your life. Thus, it is improving the quality of your life.

Quality of life is also important to you as a member of a living unit. Your living unit, whether it is your family or some other group, is one part of your life situations. Its members play a part in shaping your secondary needs, values and attitudes. In turn, the combined needs, values and attitudes of the members determine the type of housing environment in which you live. If all the members are concerned about the well-being of the group as a whole, the quality of life for the living unit will be high.

## Quality of life for society

The future of a society depends on individuals and groups who work to make life better for all. Some of the work is social in nature. This means that groups of people must cooperate with each other to reach the common goal of improving the society's quality of life. All people cannot make equal contributions toward reaching that goal. Some degree of "give and take" is required. However, if everyone considers the well-being of the society as a whole, the quality of everyone's life can be improved.

The physical aspects of the society also need attention. Again, the concept of interaction between people and their housing becomes important. Beautiful surroundings such as well-kept buildings and natural landscapes satisfy many needs of people. In turn, people must be willing to use their resources of time, money and energy to care for their surroundings — to maintain buildings, to landscape lawns, to support public parks and to control pollution.

*Human ecology* is the study of humans and their environment. Much research is being done in this area. People are becoming aware of the problems caused by pollution. For instance, waste water from homes and factories, if not treated properly, dumps bacteria and other pollutants into streams, lakes and underground water supplies. The burning of fuel for heat and power adds harmful elements into the air.

Instead of wishing for "the good old days," people must move ahead to find ways of solving such problems as noise, air pollution, traffic congestion and waste of natural resources. Solving these problems will improve the quality of life for society.

## SOCIOECONOMIC STATUS

*Socioeconomic status* is a term used to describe both the *social class* and the *economic level* of an individual or group. Both are conditions that affect the life situations of a living unit.



2-34 This concrete cubicle is a dwelling designed to provide plenty of sunlight and a great view of the desert.

EUGENE BALZER



DANNY CLEVENGER

2-36 This converted goat shed is the home of one couple who has a basic life-style. A hammock (right) provides a place to sleep.



2-35 Structures at Arcosanti are made in different sizes and shapes. Native building materials, such as concrete that is made with local sand and stone, are used.

EUGENE BALZER

## Social class

People are born into a social class or level in society. They tend to stay in the same class as their parents. However, they can move up or down the *social ladder*, 2-37. An adult's social class depends largely on his or her family background, occupation and level of education.

In the United States, the three main social classes are:

1. Lower class.
2. Middle class.
3. Upper class.

These may be further divided as shown in the social ladder.

## Economic level

Economic level is determined by the amount of money an individual or a family has to spend. The economic level of an adult is determined mainly by his or her family background, occupation and education. These are the same factors that influence social class, so you can see that economic level and social class are closely related.

The three main categories of economic level are:

1. Low-income group.
2. Middle-income group.
3. High-income group.

## Socioeconomic status and housing

An individual's or family's housing is greatly affected by socioeconomic status. When you are looking for housing, you have to make the following decisions:

- Where will the dwelling be located?
- How large will the dwelling be?
- Shall I live in an apartment or a house?
- Shall I buy or rent?

All of these housing decisions are influenced by your social class and economic level.

**Housing for low-income, lower-class people.** A "low-income family" has an income which is not more than 80 percent of the median income in a certain geographic area. A "very low-income family" is one with an income of 50 percent of the median income or less. (Median means the midpoint.) See

2-38 for examples of median incomes.

People in the low-income group or lower class often have difficulty finding adequate housing, 2-39. Many of them live on *fixed incomes* such as Social Security or welfare benefits. Their incomes remain the same regardless of other economic changes such as inflation.

Federal, state and local governments are trying to improve the housing of low-income individuals and families. The Housing and Community Development Act of 1974 provides for better housing for these people. (See Appendix A for a brief summary of this act.) One part of the act allows funds to be spent on new housing construction. In 2-40, you can see the results of a government housing project.

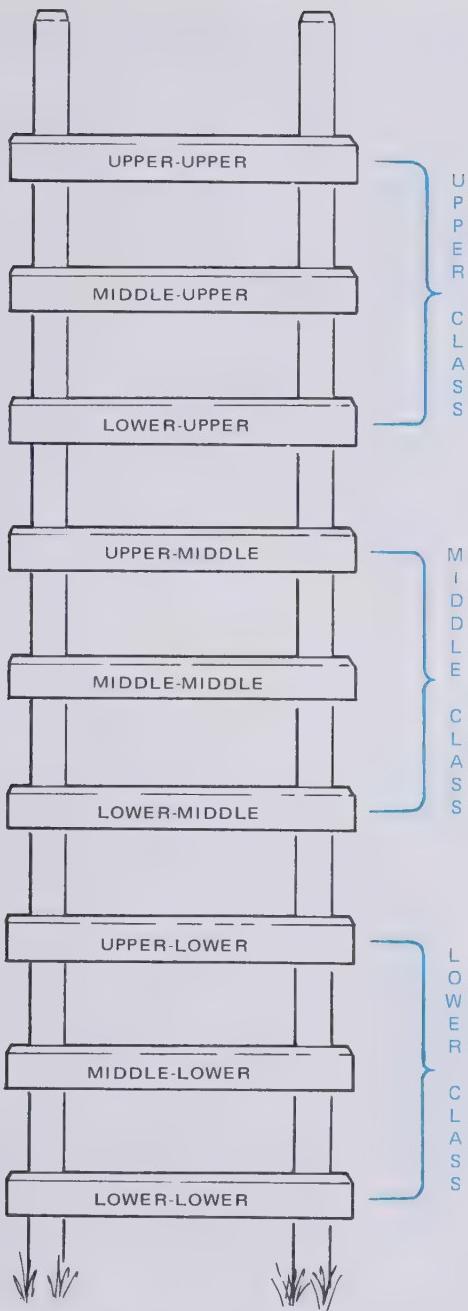
When concerned individuals work with the government, housing for those with limited incomes can be improved. One example of this is found in a midwest city. Of its 70,000 people, most are of minority groups and many are jobless.

Good housing was hard to find in the city. Then the community found a leader who understood the needs of the people. Funds from a federal grant were obtained. Churches began working on projects to improve housing. Consultants from a nearby university worked with the community leaders and an architect. They talked to residents to find their likes and dislikes in housing.

After overcoming many hurdles, the development was completed. It contains 64 town house units. The residents pay one-fourth of their income for rent which includes utilities and maintenance. The state cooperative extension service is teaching the residents home management and repair.

The success of this project encouraged people in the nearby areas to act. People became concerned and committed themselves to work for better housing. They began improving their run-down neighborhoods.

Does your community have government-sponsored housing for people with limited incomes? If so, are the people living there pleased with it?



**2-37** Steps of a ladder are used to represent social classes in the United States.

The middle class is the largest.

#### EXAMPLES OF MEDIAN INCOMES OF TWO GEOGRAPHIC AREAS

AREA A		AREA B
4000		30,000
5000		32,000
7000		36,000
9000		41,000
10,000	median incomes	42,000
12,500		43,000
15,000		45,000
17,500		
20,000		

**2-38** Within a given area, a certain number of people earn more than the median income. The same number of people earn less than the median income.



EUGENE BALZER

**2-39** Families in the lower class live in the least desirable parts of communities.



EUGENE BALZER

**2-40** Government housing projects can help improve the housing of people with limited incomes.

**Housing for middle-income, middle-class people.** The group of middle-income, middle-class people is the largest group in the United States. Therefore, it receives the most attention. The mass media focus on the middle class. Most occupations fit the middle-income level. Most dwellings are designed for middle-class families. Most furniture is made for middle-class homes.

The stereotype of a typical, middle-class family is one that lives in a comfortable house in a good neighborhood, 2-41. Although that is often true, not all middle-class people of today fit that description. Changing life-styles have revised the entire concept of families and family life. In addition, housing patterns are changing. Alternatives to the typical, single-family dwelling are being found. Apartments, condominiums and town houses are now the homes of many middle-income, middle-class people.

This trend will probably continue. In fact, today's "average" family may have difficulty buying a house. The incomes of families are growing, but not as quickly as the prices of houses. A basic economic formula says that a family should spend no more than 2 1/2 times its annual income for a dwelling. Thus, the average family in the United States should spend no more than 2 1/2 times its annual income for a house. But the average house in the United States sells for over this figure.

Since the prices of dwellings are likely to rise faster than incomes, the middle income, middle-class people may soon face some major changes in their housing and way of life.

**Housing for upper-income, upper-class people.** Since money is not an obstacle for upper-income people, they are able to live in the most desirable locations. These include elegant, downtown apartments; waterfront dwellings, 2-42; and large houses surrounded by acres of grass and trees, 2-43. The older mansion shown in 2-44 stands on the edge of a well-known golf course.

Those in the upper class often have more than one home. The homes may be located in various cities where the people work or meet

with business associates. Additional homes may also be used as vacation sites, as the one shown in 2-45.

## HOUSING AND PHYSICAL CONDITION

Physical condition affects life situations and housing needs. Someone who is handicapped has special needs according to the type of handicap. A birth defect or an accident can leave a person crippled, blind or deaf.

The elderly often have some physical weakness or handicap. Partial loss of hearing or sight is the most frequent condition that limits the elderly. Many older persons are also more sensitive to heat and cold.

Housing can be built or adapted to better satisfy the needs of handicapped and elderly persons.

### Housing for the handicapped

Millions of disabled Americans need special housing. They have many different handicaps. Some are blind. Some have difficulty moving and may be confined to wheelchairs. Others are mentally retarded.

The history of care for the handicapped is not pleasant to study. The United States has



2-41 A nice house in a nice neighborhood is typical of middle-class families.



2-42 A scenic setting like this lake makes housing more desirable and more costly.

GEORGE GALE



2-43 People with high incomes can afford to live in large houses with spacious grounds.



2-44 Older homes of good quality and in good locations are usually owned by people of the upper class.



2-45 Vacation homes vary widely. Some are in wooded areas, some are near ski resorts and some are along a beach.

JIM WALTER CORP

had places for the disabled for over 100 years. However, they were not begun as an effort to give the disabled the best of care. Instead, there were places to put handicapped people so they would not interfere with the rest of society. The needs and values of the handicapped were not considered.

Handicapped people need more than a place where they can "mark time." They need an environment that gives them a chance for positive development and self-actualization. Like everyone else, handicapped persons should be allowed to become all that they can be. They need the opportunity to learn to care for themselves. They need to be involved with life and to help others.

Most states now have special housing for disabled people. The types of special housing are varied. Some are still in the experimental stage.

Nebraska has a state program providing small group homes. From five to 15 persons live in each home. The advantage of this type of housing rather than an institution is that persons can live more normal lives and have more privacy.

Connecticut has similar small group homes that house 12 adults. Other states, such as Texas and Arizona, have group homes in rural areas. The rural setting provides work opportunities that are not available in cities. The disabled may garden, care for animals or complete other chores that are a part of operating the home.

National organizations have taken steps to improve housing for the disabled. As long ago as the 1950s, organizations were working together on such projects. The National Society for Crippled Children and Adults and the President's Committee on Employment of the Physically Handicapped developed a set of standards for buildings. The standards were developed to make buildings usable by the physically handicapped.

The New York Society of the Deaf recently built the Tanya Towers. Part of the building contains individual apartments for those who have learned to care for themselves. One entire floor of apartments is leased

to the United Cerebral Palsy Association. People with cerebral palsy who need only minimal care live there.

Other housing projects for the handicapped are held in "halfway houses." Those enrolled in the programs are "halfway" ready to care for themselves. Skills are learned under expert supervision. When they are ready, the handicapped persons go out to live independently.

The Veteran's Administration has developed standards for specially adapted houses. Their designs for people confined to wheelchairs include ramps, wide doors, kitchen and bathroom facilities at the right height and "wheel-in" shower stalls, 2-46.

With the help of a cooperative landlord, rented apartments can also be adapted to fit the needs of a handicapped person. In one instance, a nurse studied what changes were needed for a multiple sclerosis patient. By making only six minor changes, the patient was able to live independently in an apartment. The changes were:

1. Moving the telephone, doorlatch and heat controls so they could be reached from a wheelchair.
2. Installing a built-up toilet seat.
3. Placing grab bars on the bathtub, and putting a straight chair in the tub.
4. Lubricating the windows so they would be easy to open.
5. Lowering a clothes rack.
6. Trading a gas range for an electric range.

Not all disabled persons can benefit from changes like these. But those who can appreciate being able to care for themselves and to make their own housing decisions.

### **Housing for the elderly**

The number of elderly people is increasing because people are living longer. During the last ten years, the population of those over age 65 has increased more than 20 percent. Any population that shows such rapid growth demands attention. Thus, housing for the elderly has become a national concern.

The elderly are often uncomfortable in housing that satisfied them when they were

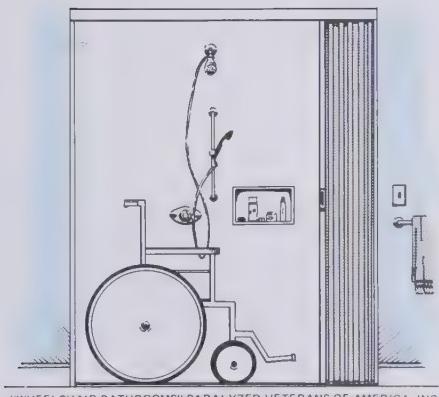
younger. Their energy level is lower, and their health is usually on the decline. Even simple, everyday activities are sometimes difficult. Climbing stairs and opening a garage door may be heavy chores.

Home ownership among the elderly is higher than among the general population. However, many find their homes difficult to maintain. The dwelling becomes run-down. Adding to this problem is the fact that retirement income is often low. It does not allow for the costs of maintaining a home.

Some elderly persons find that living in their old neighborhoods is inconvenient. They are often far from shopping centers and community centers where they can be with other people, 2-47. If they have difficulty driving, they may not be able to leave home very often. This leads to loneliness, especially if they live alone.

The elderly need housing in which household routines can be done easily and little maintenance is required. They also need to have access to other facilities.

Planned retirement communities, discussed earlier in this chapter, are one solution to the needs of the elderly. On a smaller scale, retirement apartments or rest homes offer similar solutions, 2-48.



"WHEELCHAIR BATHROOMS" PARALYZED VETERANS OF AMERICA, INC.

2-46 In this shower stall, levers are used to turn on water and then drying air.



U.S. DEPT. OF AGRICULTURE

2-47 The elderly enjoy getting together in a center for senior citizens.



GEORGE GALE

2-48 Rest homes satisfy the housing needs of many elderly persons.

## *to* Know

basic life-style . . .  
communal life-style . . .  
contracting family . . .  
economic level . . . eight  
critical periods . . .  
expanding family . . . extended  
family . . . family life  
cycle . . . fixed income . . .  
founding family . . . human  
ecology . . . individual life  
cycle . . . individualistic  
life-style . . . influential  
life-style . . . launching . . .  
life situations . . . life-  
style . . . living unit . . .  
nuclear family . . . one-parent  
family . . . quality of life . . .  
social class . . . socioeconomic  
status . . . supportive  
life-style

## *to* Review

Write your answers on a separate sheet of paper.

1. Define the term life situations.
2. List five circumstances that influence your life situations.
3. Persons who share the same living quarters are called a \_\_\_\_\_.
4. List the four main stages of the individual life cycle.
5. Give an example of the way housing needs change as a family moves from one stage of its life cycle to another.

6. Describe two ways a family expands and two ways it contracts.
7. Define the term life-style.
8. Make a list of descriptive terms for each of the following types of life-styles:
  - a. Individualistic.
  - b. Influential.
  - c. Supportive.
  - d. Communal.
  - e. Basic.
9. Give two examples of how the quality of life for society can be improved.
10. An adult's social class depends largely on his or her:
  - a. Family background.
  - b. Occupation.
  - c. Level of education.
  - d. All of the above.
11. The social class and the economic level of a living unit determine the unit's \_\_\_\_\_.
12. Describe two kinds of housing programs designed for handicapped persons.

## *to* Do

1. List the circumstances that determine the life situations of your living unit. Then list some of the housing needs your living unit has because of these life situations.
2. Survey your classmates to find out how many types of living units they represent.
3. List some housing needs for each of the four main stages of the individual life cycle. Consider privacy, recreation and clothing storage. Compare your list with that of a classmate.

4. Consider a specific housing need (such as space) and explain how it changes during each stage of the family life cycle.

5. Find information and pictures of various types of housing from around the world. Discuss the life-styles that go with each type of housing.

6. Develop a survey form. Then survey members of your class, school or neighborhood to find out about their various life-styles. Make a list of those things that are alike in their life-styles.

7. Hand in a written report explaining how Frank Lloyd Wright influenced housing.

8. Find housing advertisements that suggest an improved quality of life, and indicate if you think the ads are true or misleading.

9. Write a paper about the handicapped and their housing needs.



*This living unit  
is a nuclear family.*

FRANK FOLTZ

*Rest homes are the solution  
to the housing problems  
of many senior citizens.*





# *Making housing choices*

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## **3 Decision-making skills, 61**

Types of decisions, Resources for housing decisions, Human resources, Nonhuman resources, Steps in decision-making, Going through the steps, Categories of housing decisions, Location, Form, Acquisition

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## **4 A place to live, 74**

Region, Community, Neighborhood, Physical neighborhood, Social neighborhood, Site, Natural restraints, Legal restraints, Zones within the site, Dwelling, Multifamily dwellings, Single-family dwellings, Moving to a new location

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## **5 Acquiring housing, 101**

Process, Cost, A place to rent, The written lease, Assigning and subletting a lease, Breach of contract, Eviction, A place to buy, The price is right, To build or buy, Shopping for a place to buy, Steps in buying a dwelling, Condominium and cooperative ownership

*You face decisions in every phase of your life, including housing. Two of your most important housing decisions are choosing a dwelling and finding a way to acquire it.*



WESTERN RED CEDAR LUMBER ASSOC.



NORTHERN HOMES, INC.

# *Decision-making skills*

*After reading this chapter, you will be able to define the different types of decisions, to list some of your human and nonhuman resources and to explain the three main categories of housing decisions. You will also be able to discuss the steps of the decision-making process and to make wise decisions.*

*You will face many decisions during your lifetime. One of them may be the selection of a house. Would the house you select be like either of these?*

**T**he first two chapters of this book, you have read that many decisions affect housing. These decisions are related to your needs, values and life situations. Since these factors change continually, you continually face new decisions. By making these decisions wisely, you and your living unit will have the chance to grow and develop into better persons.

## **TYPES OF DECISIONS**

Decisions are not all alike. Learning to recognize the different types of decisions will help you develop decision-making skills.

Decisions can be classified into two groups. One group consists of those which vary according to the thought and care used in making them. See 3-1. Another group classifies decisions by their relationship to other decisions.

### **Decisions according to thought and care**

The three types of decisions that vary according to the amount of thought used to make them are *rational*, *spur-of-the-moment* and *habitual*.

Suppose you had your own bedroom and you wanted an upholstered chair in it. If you shopped until you found a chair that looked

good with what you already had in your room, you would have made a *rational decision*.

If you bought the first chair that appealed to you without a thought about how it would look in your room, your decision would have been a *spur-of-the-moment* one.

*Habitual behavior* does not call for a decision unless there is something new in the situation. Turning on the faucet in your bathroom is a habit. You do not have to make a decision unless water fails to come out of the faucet when you turn it on.

### Interrelated decisions

Some decisions can be described by their relationship to other decisions. *Central-satellite decisions* and *chain decisions* are examples.

The concept of *central-satellite decisions* is illustrated in 3-2. The central decision is the big one. The satellite decisions are related to it, but they do not depend on it.

In a *chain decision*, one decision triggers others. Once you have made one decision, you must make each succeeding decision. If you fail to make any one of them, the action stops. See 3-3 for a diagram of a chain decision related to housing.

Suppose some of the grass in your yard is dying. Long ago, you had planted a certain variety of grass because it was attractive. Now the backyard is used as a playground by children and pets, 3-4. It is also used as a path from one part of the yard to another. The heavy traffic prevents the grass from growing.

You may choose to remove this grass and replace it with a hardier variety. The new variety will withstand the traffic and will look more attractive. It will also require less care.

The decision to replace part of the grass is the first decision in a chain. The second “link” is the decision to replace only the grass in the backyard. The next is to decide which variety of grass to use. Other “links” include deciding where you will get the grass, whether

## TYPES OF DECISIONS

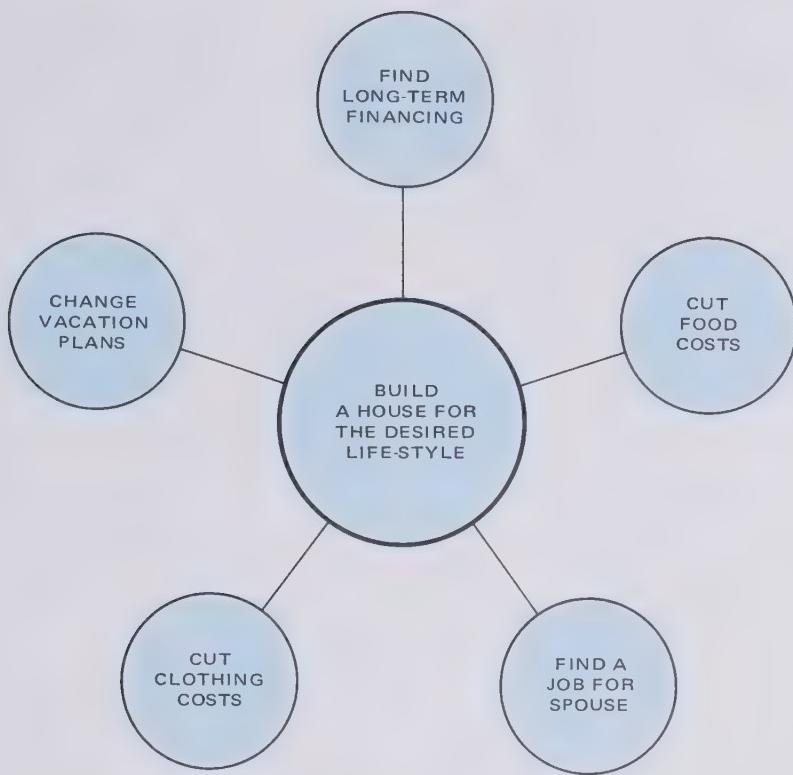
GROUPIED ACCORDING  
TO AMOUNT OF THOUGHT  
TAKEN TO MAKE THE  
DECISION

Rational decisions	Choices are made only after looking at problems carefully. The consequences are considered.
Spur-of-the-moment decisions	Choices are made hurriedly. Little thought is given to possible outcomes.
Habitual behavior	Action is done as a matter of habit. Decisions are made only when new situations arise.

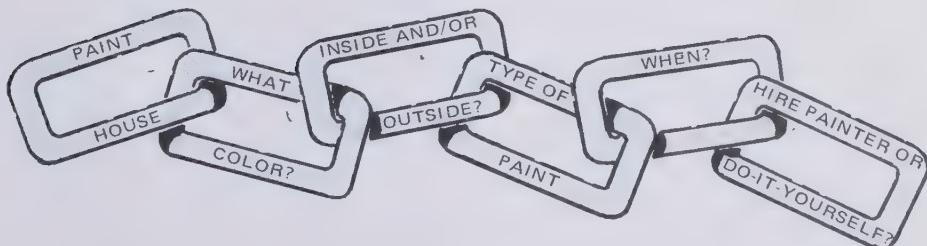
GROUPIED ACCORDING  
TO RELATIONSHIP  
BETWEEN DECISIONS

Central-satellite decisions	A major decision is surrounded by related, but independent, decisions.
Chain decisions	One decision creates other choices that must be made to complete the action.

**3-1 Decisions are classified by the amount of thought devoted to them or by their relationship to other decisions.**



*3-2 The central decision is to build a house; the others are satellite decisions. They are related to the central one, but they are not dependent on it.*



*3-3 In chain decisions, additional decisions are needed to complete the action of the first one.*

you will do the work yourself or have someone else do it, when it will be done and how you will pay for it. Each of these decisions must be made before the grass can be replaced.

Now suppose that you have decided not to replace the grass. Instead, you want to protect the grass from heavy use. In this case, the decision to keep the same grass becomes a central decision. Satellite decisions are needed. You may decide to shift some of the play activities to a patio since some play activities are better suited to hard-surfaced areas, 3-5. Other activities could be moved to another part of the yard. In 3-6, older children play catch on the front lawn while younger children use their wheeled toys on the sidewalk.

Another satellite decision may be to set up traffic barriers. Careful placement of lawn furniture or flower beds can force people to walk around the grassy area instead of through it.

## RESOURCES FOR HOUSING DECISIONS

*Resources* are sources of supply or support. You need resources to carry out any type of decision you make. They are available to you in many forms.

### Human resources

When you use your ability, knowledge or energy, you are using a *human resource*. Even your health and your attitude toward a problem are human resources. See 3-7.

Someone with the ability to make home repairs has skill as a human resource. Someone who is willing to learn how has attitude as a resource. When these resources are developed and used, decisions can be made, and results can be achieved.

If you are a person with a high energy level, you may spend time after school and on weekends doing extras to improve your housing. If you have a low energy level, you may choose to hire someone to do what is needed to keep your house in shape. You can rest while they work.

You will seldom use only one resource at a time. They are all closely related. To develop a new skill, you will need a good attitude, knowledge and time.

*Time* is sometimes called a human resource. How you use time is really what counts. You have 24 hours a day, 365 days a year, just as everyone else has. Time is the only resource that all people have in the same quantity. Other resources come in different quantities for different people. You will even have them in different quantities at different times during your lifetime. For instance, you may have more energy now than you will have when you are 30 years older. On the other hand, you are likely to have more money to spend then than you have now.

Many older people are short of both money and energy. To make their resources meet their needs, they must know how to use their wisdom and experience to save money and energy.

You have a choice of which resources you wish to spend and which ones you wish to save. Suppose that you owned a house that



3-4 Children and pets need clean, safe areas where they can play.

JOHN OEHLER



**3-5** Wheeled toys, such as tricycles, work best on concrete or asphalt surfaces.

GEORGE GALE



**3-6** A sidewalk or a surfaced driveway can satisfy the need for play area. Ball practice can take place on the lawn.

GEORGE GALE

#### INVENTORY OF HUMAN RESOURCES

PERSON	HUMAN RESOURCE						
	Physical health	Energy	Knowledge and information	Ability or skill	Attitude	Other (specify)	
Husband/Father:							
Wife/Mother:							
Teenagers: (1)							
(2)							
Children: (1)							
(2)							
Others: (1)							
(2)							

**3-7** Human resources are the help you can get from people. To make an inventory of the human resources in your living unit, make a similar chart on a separate sheet of paper. Rate members on a scale from 0 to 5.

needed painting. You could paint it yourself. That would take a lot of your time which you may prefer spending in some other way. In that case, you might decide to buy someone else's time to get the house painted. You could hire a painter or a friend.

Some of your human resources are depleted (lessened) as you use them. Others increase with use. You may use up all of your energy and time, but you can increase your skills as you use them.

### **Nonhuman resources**

*Nonhuman resources* include property, money, goods and useful community help. See 3-8.

Consider how the resource of money is used in housing. Everyone has some housing expenses. Money is needed to buy or rent a place to live. Additional money is needed for furnishings, equipment, utilities and repairs. You must decide what you can afford to spend for these things. That amount will be determined by a number of factors such as:

- The income you are making.
- The amount of money you have saved for housing.
- Your life-style.
- Your other property.

The property you acquire and the way you use it are related to your housing decisions. Property resources include such things as land, buildings and furnishings. The housing you can afford is partly determined by choices you have made about other property. Perhaps you are willing to drive a less expensive car so that you can have new furniture. If you choose a better car, the furniture or some other feature of your housing may have to wait. You may decide to reupholster or repair older furniture rather than replace it.

**Community resources.** Community resources are often taken for granted, but they can play an important part in your housing decisions. One such resource is a public library. You can study the books in the library to prepare for a better job or to do your homework. You can also read books for recreation. In addition to books, libraries

offer statistical records, government documents, maps, magazines and newspapers.

A city park with a playground and a picnic area is another community resource, 3-9. If you know that a park is nearby, you may decide to choose a site or lot with a small yard.

Special classes for self-improvement are also community resources. By taking advantage of these classes, you could learn such skills as furniture refinishing, upholstery and home maintenance. Then you could complete some do-it-yourself projects like the one shown in 3-10.

Other community resources include hospitals, fire stations, police departments, schools, shopping centers and recreational facilities. What community resources are available where you live?

## **STEPS IN DECISION-MAKING**

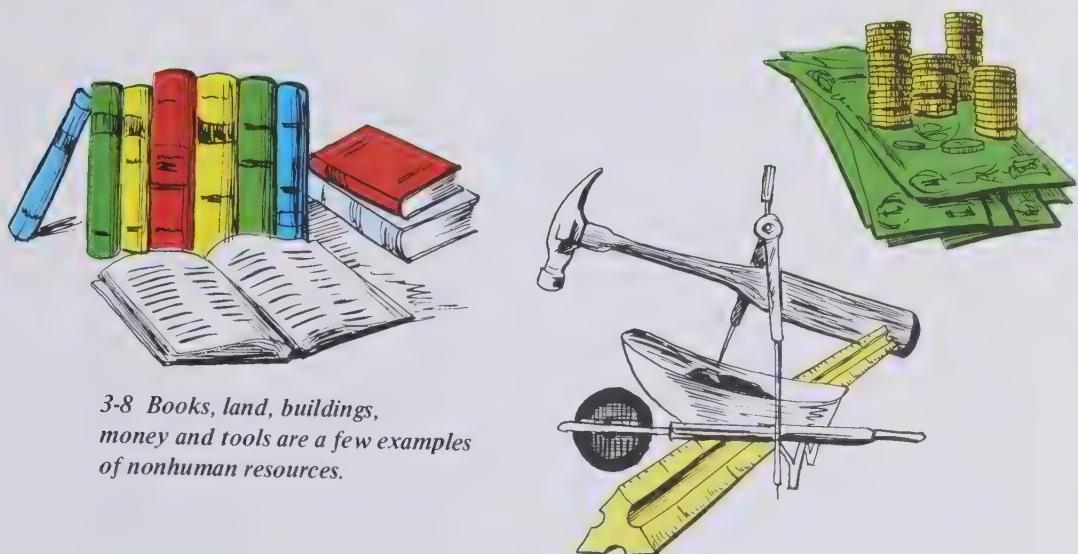
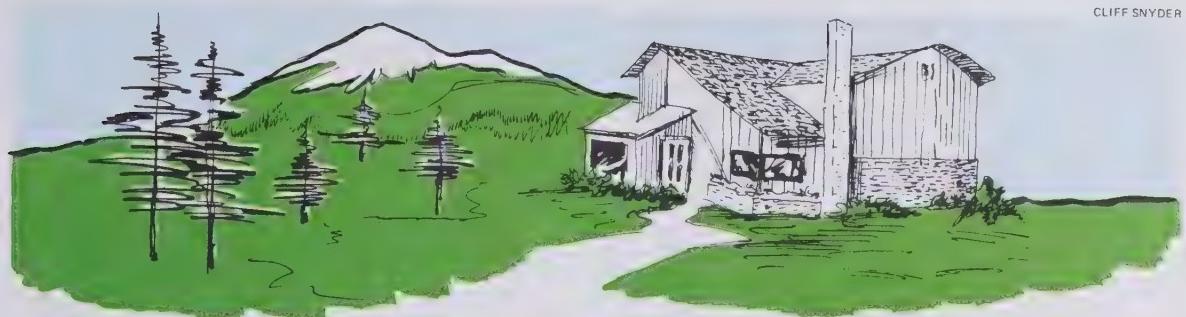
To make a wise decision, you must know your goal or problem. Then you can determine the best way to reach the goal or to solve the problem. Thus, the first step in the decision-making process is called *problem identification*. It includes:

- Defining the problem.
- Finding the cause.
- Considering the effects of the problem on the people involved.

In step two, you find different ways to solve the problem. This is called *seeking alternate solutions*. Each possible solution is studied. At this time, the following questions must be answered:

- What resources are needed?
- What will happen as a result of each solution?
- Will the outcome give lasting satisfaction?
- Will everyone involved be satisfied?
- What other decisions need to be made?

The third step is *choosing one of the alternatives and taking action*. Hopefully, you will have chosen the best alternative. But in many cases, you will have to change your decision. You will have to go back to the second step and look at the alternate solu-



*3-8 Books, land, buildings, money and tools are a few examples of nonhuman resources.*



*3-9 Parks with playground equipment and space for running games are community resources.*

tions again. You may even find that you have not accurately identified the problem.

Some decisions have to be changed because you could not foresee the outcome. Suppose you had decided to use the money you had earned by mowing lawns to buy a pet rabbit. If the outcome was that your whole family became angry with you, you might have to change your decision. Other decisions must be changed because the necessary resources are not available. Suppose you had decided to barbecue steaks for dinner. If you had forgotten to buy charcoal and lighter fluid, you would have to change your decision. You would have to cook indoors instead.

### **Going through the steps**

One way to learn about the decision-making process is to consider one housing problem and think through all the steps needed to make a decision about it.

Suppose you are a member of a family that is expanding. Your grandmother is coming to spend a winter with you. As a result, the housing needs and values of your family will change. How will your new needs and values be met? How will your grandmother's needs and values be met?

**Step one: Problem identification.** The problem is to find a way to satisfy the needs and values of all members of the new, larger living unit.

#### *Determine the causes of the problem.*

- Grandmother needs to spend the winter in a milder climate.
- Grandmother cannot afford to pay a separate rental price.
- Your family enjoys Grandmother and wants her to come for the winter.

#### *Consider the effects of the problem.*

- Some or all members of the living unit will be more crowded.
- The life-style of the living unit will change.
- Extra money may be needed to provide housing for Grandmother.

**Step two: Seeking alternate solutions.** One solution is to have Grandmother occupy the room that the family uses as both a home

office and a guest room.

*Determine what additional resources are needed.*

- Another office area.
- A place for guests.
- Money to make the needed changes.
- Time to reorganize the room.

#### *Consider the consequences.*

- Items may be stored in places where they are hard to find and use.
- There will be less chance for use of the home office unless it is moved.
- Members of the living unit will need to "double up" when there are guests.
- Less money will be spent on some things — perhaps recreation.
- Leisure time will be given up by one or more members of the living unit to get the room ready.
- There will be more use of the shared facilities such as laundry equipment and the bathroom.

- The arrangement is temporary (for the winter) and may not provide lasting satisfaction for Grandmother.

- Members of the family may not be satisfied with their changed life-style.

#### *Other decisions must also be made.*

- Where will things be stored?
- Will there continue to be a home office?
- Where will guests sleep?
- How will the extra money be obtained?
- Who will get the room ready?
- What will Grandmother do next summer?

A second solution is to add a room with a bath to the house. What resources will be needed to carry out this alternative? What are the possible consequences? What other decisions will need to be made?

**Step three: Choosing one of the alternatives and taking action.** The choice is that Grandmother will occupy the dual-purpose room. (You may make a different choice.)

#### *Take the necessary action.*

- Make the other decisions listed and carry them out in the order that seems best.
- Check to see if the outcome is satisfactory for all involved.
- Change some of the minor decisions for

more satisfaction, if necessary.

Going through the decision-making process takes time and thought. It helps you make rational and wise decisions.

If you review this example of Grandmother's visit, you will see that the decisions can be classified not only as rational decisions, but also as central-satellite decisions. The central decision is that Grandmother is coming to stay with the family for the winter. The other decisions are satellite decisions.

## CATEGORIES OF HOUSING DECISIONS

Most housing decisions fit into one of three major categories: location, form or acquisition.

### Location

Every part of housing has a *location* or place. Some things are located outside a dwelling; others are within it.

The dwelling itself is located on a site or



**3-10** This room has been made more attractive by a creative person. Sheets were used to frame a mirror and to cover a table and the seats and backs of chairs.

MARTEX — WEST POINT PEPPERELL

lot. Its location affects the size and shape of the yard. Compare the three locations of the dwelling pictured in 3-11. Each tree, shrub, fence and sandbox also has a location outside the dwelling.

Inside a home, every room, door, chair, appliance and picture has its own place.

Someone has made a decision about the location of everything. It may be a major decision such as choosing a site for a new building. Or it may be a minor decision like choosing a place for a toothbrush.

You may think that the location of your toothbrush is not important and should not be considered a housing decision. Finding your toothbrush every morning may be a habitual behavior for you. But when you first moved in your home, someone decided that the bathroom was the best place for storing toothbrushes.

## Form

*Form* refers to the physical shape of objects. There is form to all that is within and

without a dwelling. Trees, buildings, furniture and lamps all have form. Your toothbrush has a form that makes it easy to handle and to use.

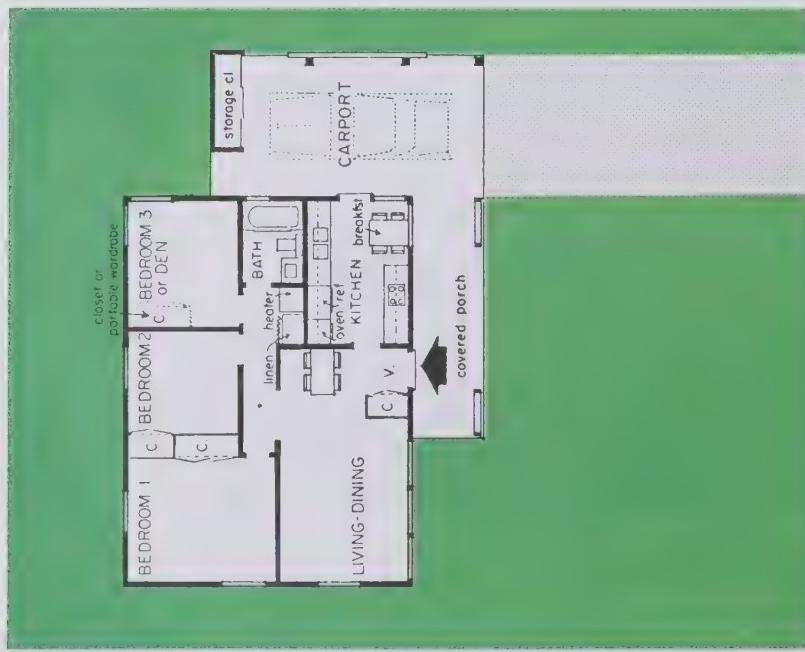
The form of a dwelling can be a high-rise apartment building, a town house, a small house or a mansion. Beds can be twin, full, queen or king-size. Doors can swing, slide or fold open. A chair can be in the form of a kitchen chair, a rocker or a reclining chair. Even objects that are used for the same purpose can have different forms. The chairs shown in 3-12 are both dining chairs, but their forms or shapes are different.

## Acquisition

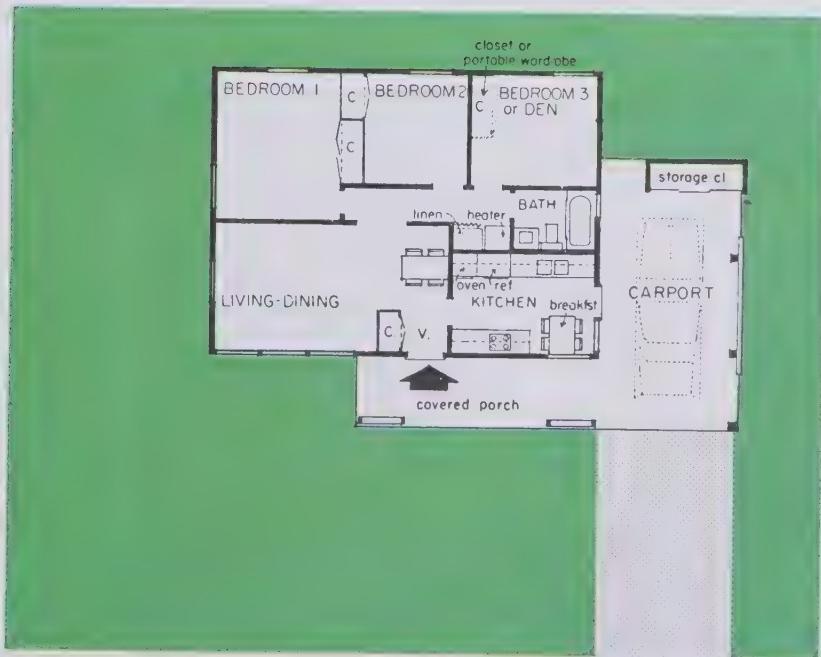
*Acquisition* is the act of getting something. Acquiring or getting housing is divided into two parts: process and cost.

*Process.* Process is the way you do things. In housing, process is the way you acquire housing. How did your living unit acquire the dwelling in which you live? Did they build it, or was it built by someone else? Did they buy

*3-11 The location of a dwelling on a lot will determine the size of the yard space around it.  
(continued)*



MASTER PLAN SERVICE, INC.



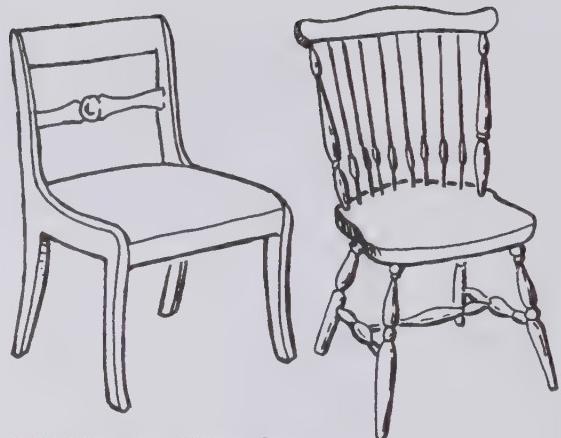
3-11 (continued)

it? If so, was it new or used? Did they pay cash for it, or are they making monthly payments? Perhaps they acquired the dwelling by renting it, receiving it as a gift or borrowing it from a friend.

After the initial (first) acquisition, additional processes are needed to maintain a household. You make arrangements to have the electricity and water turned on. You pay your utility bills by check, money order or cash. You deliver the payments either in person or through the mail.

**Cost.** Cost is the amount of your resources you spend to acquire housing. The money you spend for rent or mortgage payments, utilities and home maintenance is part of what you pay for housing. The other resources you spend, such as time, energy and skills, add to your housing costs.

Suppose you have chosen to pay for your utilities by mail. You write checks to cover the amount of the bills and mail them to the utility companies. What do you spend to pay for your utilities? You spend the amount of money charged for the utilities. You pay for stamps, and you may pay a small amount to



*3-12 These two dining chairs have different forms or shapes.*

the bank for your checks.

Paying bills also costs time and energy. You can save both of these resources by mailing the payments rather than delivering them in person.

When decisions about location, form and acquisition of housing are rationally made, they are more likely to satisfy the living unit.



*Climate can be a factor as you make some of your housing decisions. Would this room and patio be appropriate for your region?*

PPG INDUSTRIES

# *to* Know

acquisition . . . central-satellite decisions . . . chain decisions . . . community resources . . . cost . . . form . . . habitual behavior . . . human resources . . . location . . . nonhuman resources . . . process . . . rational decisions . . . resources . . . spur-of-the-moment decisions . . . steps in decision-making

# *to* Review

Write your answers on a separate sheet of paper.

1. A \_\_\_\_\_ decision is one that is made after thinking carefully about a problem or goal.
2. When you make a decision in a hurry, with little or no thought given to the possible outcomes, it is called a \_\_\_\_\_ decision.
3. (True or False) Closing the door as you leave your home is called a habitual behavior.
4. When one decision requires other decisions to carry it out, the decisions are called:
  - a. Central-satellite.
  - b. Chain.
5. Describe five community resources.
6. List the three major steps in the decision-making process.

7. Give an example for each of the following categories of housing decisions:
  - a. Location.
  - b. Form.
  - c. Acquisition.

# *to* Do

1. Set up three columns on a separate sheet of paper. Label the first column "Degree of satisfaction;" the second, "Decision;" and the third, "Type of decision."

In the center column, list some housing decisions that have been made by members of your living unit. In the right-hand column, list the type of decision (rational, spur-of-the-moment or habitual behavior).

Write a (++) in the left-hand column if there was a great deal of satisfaction from the outcome. Write a (+) if there was some satisfaction and a (−) if there was no satisfaction.

2. Have a class debate about this statement: Rational decisions give more satisfaction than spur-of-the-moment decisions.

3. In a small group, write and present a skit to the class showing how resources can be decreased and increased at the same time.

4. Read the following case study, and complete the suggested activities.

Andy and Jane are students in a community college. They plan to be married in June. Both are working at part-time jobs and will continue in school after their wedding.

They will both graduate after another year. Andy plans to work in an auto repair and welding shop. Jane wants to continue her part-time job in the college library. In four or five years, they plan to start a family. They want two children.

Jane likes music and wants a piano. Andy likes to fish and garden.

- a. Identify a major housing decision this couple will face.
- b. What resources will be available to them? What are the alternatives they may consider? What are the possible outcomes of each alternative? What other related decisions will they have to make?
- c. Which alternative would you choose as a solution? Give reasons for your choice.

## *A place to live*

*After reading this chapter, you will be able to discuss the many decisions involved in choosing a place to live. The decisions include the selection of a region, community, neighborhood, site and dwelling.*

**O**nce you decide you need a new place to live, you will have many other decisions to make. Some of those decisions will concern location. In fact, you will face five major decisions when choosing a place to live. These are:

1. The *region* or area of the world, country or state.
2. The *community* – country, suburbs or city.
3. The *neighborhood* or section of the community.
4. The *site* or *lot* within the neighborhood.
5. The specific *dwelling*.

### **REGION**

The specific part of the world, country or state in which you live is your region. Reasons for choosing a certain region are varied. You may like the scenery. See 4-1, 4-2 and 4-3. Perhaps the climate is important to you. People with asthma or arthritis often choose to settle in a dry climate. Such a climate is found in the southwestern part of the United States. Look at 4-4 to learn about the different climates in this country.

You may choose a certain region in order to be close to family members or friends. The chance for employment may also lead you to



WESTERN WAYS FEATURES

*4-1 A desert region is noted for mild winters but very hot summers.*



WESTERN WAYS FEATURES

*4-2 Mountainous regions offer cool summers and very cold winters.*



*4-3 Along the New England coast, the weather is affected by the ocean. This spot is near the site of the first Pilgrim landing at Plymouth Rock.*

a certain region. Jobs are usually easier to find in regions with large cities.

Several things to consider when you are choosing a region are listed in 4-5. Which ones would you like to find in your ideal region?

## COMMUNITY

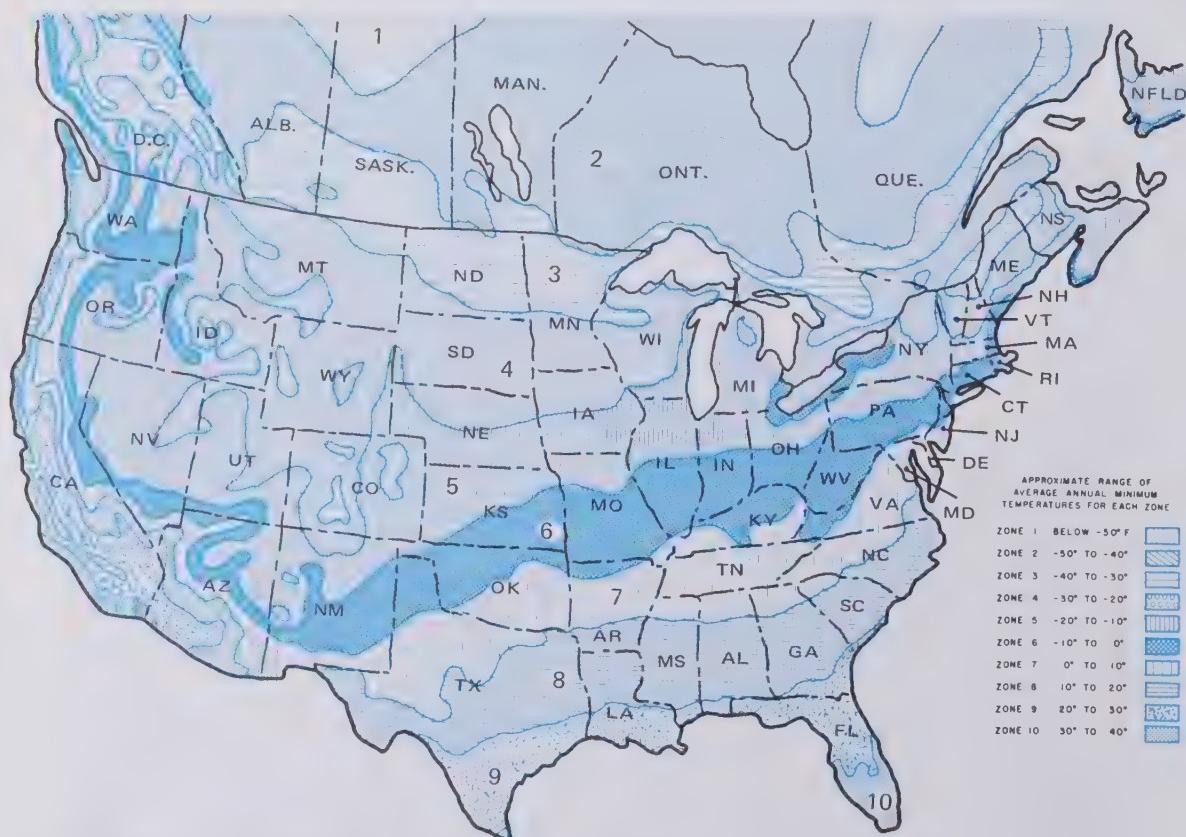
A region is divided into communities. A community may be a large city, a small village or a rural area.

Cities are high-density areas. Many people live close together. If you enjoy being in contact with people most of the time, you are a *contact person*. You may enjoy city life.

Rural areas and the outskirts of towns and cities are low-density areas. If you enjoy being alone most of the time, you are a *noncontact person*. You may choose to live in a community of this type.

Some communities are designed for specific groups of people. For instance, some are built especially for retired persons. University communities consist of large groups of students and professors. The community pictured in 4-6 was developed by a mining company for its employees and their families.

Before choosing a community, you should consider more than just its size and social aspects. The number and type of services



4-4 This map shows the annual range of temperatures in regions of the United States and Canada. Your choice of a region could depend on the kind of weather you prefer.

## THE REGION

DECISIONS	RANGE OF AVAILABLE CHOICES		
<b>General Climate</b>	Hot Dry Constant temperature	to to to	Cold Wet Varying temperature
<b>Topography</b> (Prairie, lakes, mountains, etc.)	Flat Desert Low altitude	to to to	Mountainous Forest High altitude
<b>Employment Opportunities</b>	Limited in type Limited in number Low-paying Seasonal	to to to to	Varied Plentiful High-paying Steady
<b>Cost of Living</b>	High	to	Low
<b>People</b>	Family and friends	to	No acquaintances
<b>Value System</b> (A set of values that seems to dominate the thinking and actions of people)	All people equal Conservative	to to	Class conscious Liberal

*4-5 These are some of the choices that will influence your selection of a region in which to live.*



W.H. TROXELL

*4-6 This community was developed by a copper mining company for its employees and their families.*

offered in a community should also be studied. What kinds of stores are in the community? Is the school system good? Does your religious group have a meeting place? Are good medical facilities located in the community? Will you have good fire and police protection? Are resources available for self-improvement? What recreational facilities are offered? Are jobs easy to find? If some of these services are not available in the community, how far away are they? What kinds of transportation are offered?

The chart in 4-7 can serve as a guide for evaluating a community. Which factors apply to your present community? Which ones would you like in your ideal community?

## NEIGHBORHOOD

Regions are divided into communities, and communities are divided into neighborhoods. A neighborhood consists of a group of dwellings and people. The buildings in any one neighborhood are usually similar in age, design and cost. The people in a neighborhood usually have some similarities too.

### Physical neighborhood

The physical neighborhood is determined by the way the land and buildings are used. Some neighborhoods are all *residential*. That is, they are all occupied by living units. *Commercial* neighborhoods include stores and

## THE COMMUNITY

DECISIONS	RANGE OF AVAILABLE CHOICES		
Type	Rural Industrial Commercial Commuter (suburb)		
Size	Single dwelling (farm) Village Town City Metropolis Megalopolis		
Density of Population	Sparse	to	Dense
Cost of Living	Low	to	High
Population Composition	Homogenous (similar) to Heterogenous (varied)		
Community Facilities	Few to Many		
Value System (A set of values that seems to dominate the thinking and actions of the people)	Prejudiced to Free from prejudices		

4-7 When you look for a community in which to live, these factors may be considered.

businesses. Shopping centers are a kind of commercial neighborhood. *Industrial* neighborhoods include businesses, factories, warehouses and industrial plants.

Some neighborhoods combine residential, commercial and industrial buildings and land. For instance, when a local grocery is surrounded by homes, the neighborhood is a combination of residential and commercial buildings.

### Zoning rules and other restrictions

Some neighborhoods have *zoning rules* which require that the land and buildings can be used for only one purpose. The rules are

made by local or state governments. A neighborhood may be zoned for either residential, commercial or industrial use or for a combination of uses.

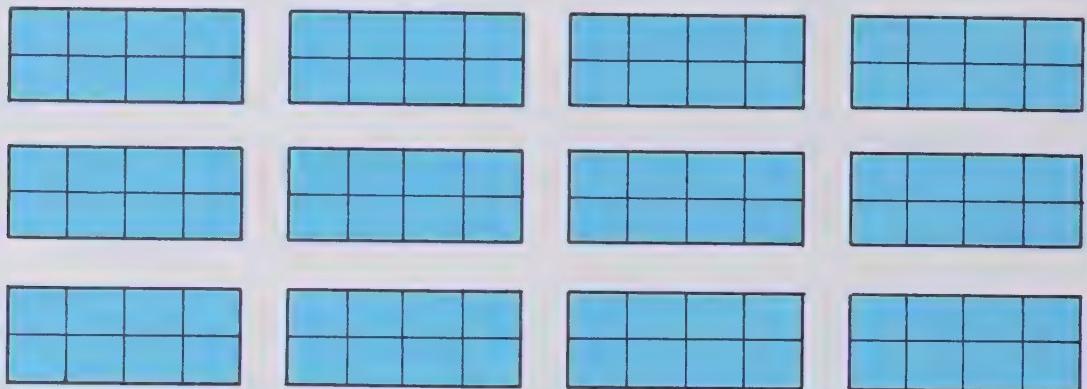
Housing developers can set additional limits which are called *restrictions*. (Developers are those who build houses. They develop a plot of land into a neighborhood. Sometimes the developed plot is called a subdivision.) These restrictions may control the design of the buildings that can be constructed. They may also limit the kind and number of animals that can be kept in a neighborhood. In 4-8, you can see a set of restrictions drawn up for a subdivision.

### DECLARATION OF RESTRICTIONS FOR SWISS MANOR SUBDIVISION

1. All of said lots in Swiss Manor Subdivision shall be known and designated as residential lots and shall not be used for any business purpose whatsoever.
2. No structure whatsoever other than one private dwelling, together with a private garage or carport, for not more than three cars, shall be erected, placed or allowed to remain on any of the lots.
3. No dwelling house shall be erected which contains less than 1200 square feet of liveable space, exclusive of attached garage, porches, patios and breezeways. No residence shall be built which exceeds the height of 2 1/2 stories or 30 feet from the curb level. All structures on said lots shall be of new construction and no building shall be moved from any other location on to any of said lots.
4. There shall be no trailer houses, or homes built around or incorporating trailer homes. All camper trailers, campers or boats shall be stored behind the dwelling house, or be stored within the garage.
5. There shall be no unused automobiles, machinery or equipment allowed on these premises outside of enclosed garages. All driveways or parking areas used for parking vehicles shall be constructed of concrete.
6. All clothes lines, equipment, service yards, woodpiles or storage piles shall be kept screened by adequate planting or fencing to conceal them from view of neighboring lots or street. All rubbish, trash or garbage shall be removed from the lots and shall not be allowed to accumulate thereon. All yards shall be kept mowed and all weeds shall be cut. Garbage and refuse containers may be brought to the street not more than 12 hours before collection time and must be removed within 12 hours after collection time.
7. No animals, livestock, or poultry of any kind shall be raised, bred or kept on any lot, except for dogs, cats and other household pets may be kept provided that they are not kept, bred or maintained for commercial purposes, and so long as applicable laws in respect to restraining or controlling animals are observed.
8. No lot may be subdivided, or a portion sold unless it becomes a part of the adjacent property.
9. No solid wall, hedge or fence over 2 1/2 feet high shall be constructed or maintained past the front wall line of the house. No side or rear fence shall be constructed more than 6 feet in height.
10. All utility lines must be brought underground to the dwelling house.
11. No structure shall be built nearer than 25 feet to the front property line. No living areas shall be located nearer than 10% of the lot widths to any side property line and no carport or garage closer than 5 feet.
12. No billboards, signs, or advertising devices, except suitable "For Sale" or "For Rent" signs shall be maintained.
13. Before construction of the initial structure of any building, plans and specifications and materials must be approved by the Developer or its successor.
14. Construction of homes must be started within one year after purchase of lot and must be completed within one year after commencement of construction.
15. No property owner shall in any way divert the drainage water in such a way that it will encroach upon a neighbor's property.
16. These declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, and are for the benefit of and shall be limitations upon all future owners in said Swiss Manor Subdivision.

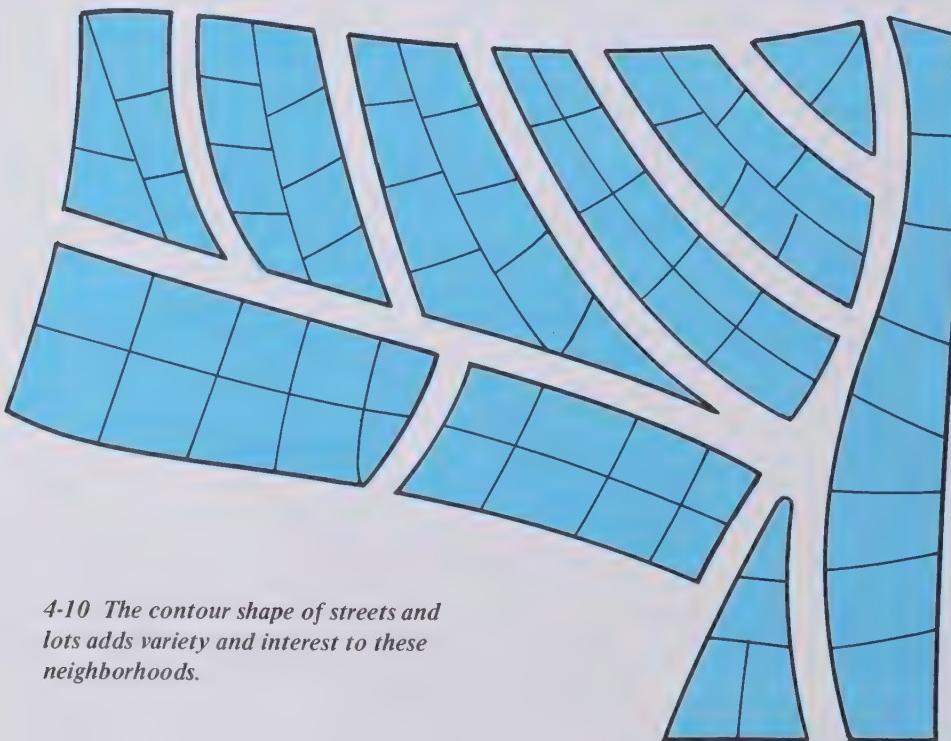
4-8 This list of restrictions was made by the developers of a subdivision.  
Its purpose is to assure that all owners will maintain a certain style of living.

A *planned neighborhood* is usually in a zoned area with restrictions. Before anything is built, the size and layout of the individual lots are determined. This creates the shape of the neighborhood. Three ways of arranging lots are shown in 4-9, 4-10 and 4-11.



4-9 In a traditional "gridiron" arrangement, all of the lots are the same size and shape.

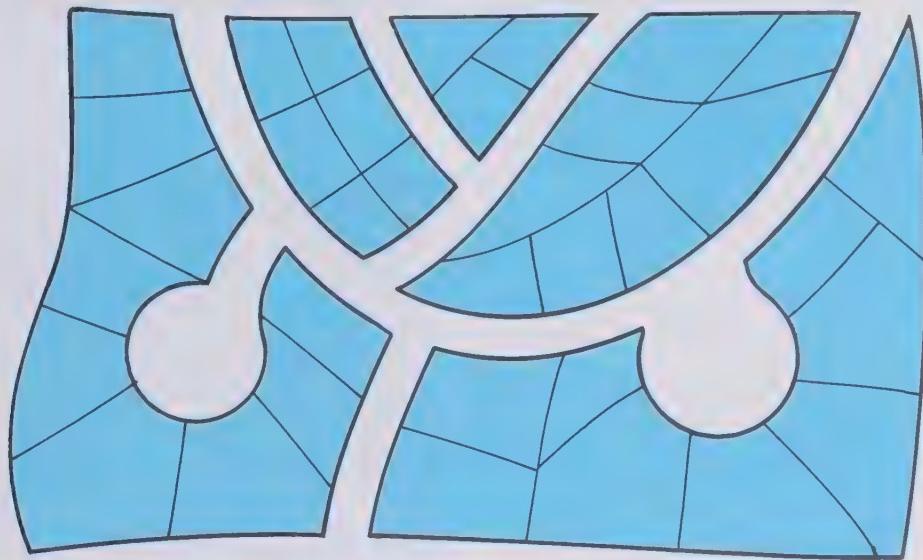
All dwellings built in this type of neighborhood must fit into the overall plan. Some planned neighborhoods have only single-family dwellings. Some have only apartment buildings. Other planned neighborhoods are for only mobile homes, 4-12.



4-10 The contour shape of streets and lots adds variety and interest to these neighborhoods.

The quality of construction and the type of design are sometimes controlled in a planned neighborhood. This assures the residents that the neighborhood will not become run-down.

Many planned neighborhoods include recreational facilities. Parks, 4-13, and playgrounds, 4-14, are built in locations that are convenient to the people living in the neighborhood. A clubhouse, like the one shown in



4-11 The cluster layout of lots places fewer homes together in groups with less traffic on the streets.



4-12 Some neighborhoods are for mobile homes only.

GEORGE GALE



4-13 Parks beautify a neighborhood and provide space for recreation.

GEORGE GALE

4-15, is often built as a place for meetings and social activities.

### Social neighborhood

The type of people in any one neighborhood may be quite varied. Then the neighborhood is *heterogenous*. If the people are very similar to each other, the neighborhood is *homogenous*. Sometimes neighborhoods or whole communities are made up of people who are similar in age, ethnic background, income level or occupation. These patterns occur in both rural and urban settings.

Another factor involved with social neighborhood is population density. A low-density neighborhood has more space for each individual than a high-density one has. Generally, low-density neighborhoods have prestige, but this rule has many exceptions.

Smaller dwellings, smaller lots and more people in less space create high-density neighborhoods. Mobile home parks, 4-16, and apartment buildings fit this category.

Which kind of neighborhood would you choose? What are your reasons for making that choice? The factors listed in 4-17 can help you make a decision.

## SITE

A location within a neighborhood is called a site or lot. It is the piece of land on which the dwelling is built. It extends as far as the property lines.

Each site has its own characteristics – size, shape, contour (hills and curves) and soil type. These characteristics should be considered before you choose a site for your home, 4-18.

Certain sites are considered more prestigious than others. Sites that allow for privacy, that have a nice view and that offer plenty of space are likely to be in great demand. They are also more costly than other sites. What kind of site would be your ideal? Would you like to be close to your neighbors, or would you prefer to have more privacy? Would you like to have your home on a hill or on flat land? What kind of view would you like?



4-14 Playgrounds are a part of many planned neighborhoods.

GEORGE GALE



4-15 A clubhouse offers space for social activities.

GEORGE GALE

4-16 This mobile trailer park has a high density.



## THE NEIGHBORHOOD

DECISIONS	RANGE OF AVAILABLE CHOICES		
<b>Physical</b>	Residential Commercial Industrial Combination	Zoned to Unzoned	
<b>Organization of Lots</b>	Attractive Much street traffic Park and play areas	to to to	Unattractive Little street traffic No park or play areas
<b>Type of Structures</b>	Single-family Multifamily Mixed		
<b>Location in Community</b>	Edge	to	Center
<b>Density of Population</b>	Sparse	to	Crowded
<b>Population Composition</b> Age                    Occupation Income                Religion Interests            Ethnic group	Homogenous (similar)	to	Heterogenous (varied)
<b>Value System</b> (A set of values that seem to dominate the thinking and actions of the people)	Agrees with own values	to	Does not agree with own values

**4-17 Which of these factors would you include in your ideal neighborhood?**

## THE SITE

DECISIONS	RANGE OF AVAILABLE CHOICES														
<b>Location in Neighborhood</b>	Edge	to	Center												
<b>Orientation to Environment</b>	Takes advantage of features	to	Ignores features												
<table border="0"> <tr> <td>Sun</td><td>Prevailing wind</td></tr> <tr> <td>Water</td><td>Erosion</td></tr> <tr> <td>View</td><td>Pollution</td></tr> </table>			Sun	Prevailing wind	Water	Erosion	View	Pollution							
Sun	Prevailing wind														
Water	Erosion														
View	Pollution														
<b>Physical Characteristics</b>	<table border="0"> <tr> <td>Large</td><td>to</td><td>Small</td></tr> <tr> <td>Regular</td><td>to</td><td>Irregular</td></tr> <tr> <td colspan="3">Level, Gentle slope, Steep slope</td></tr> <tr> <td colspan="3">Sand, Gravel, Rock, Clay</td></tr> </table>			Large	to	Small	Regular	to	Irregular	Level, Gentle slope, Steep slope			Sand, Gravel, Rock, Clay		
Large	to	Small													
Regular	to	Irregular													
Level, Gentle slope, Steep slope															
Sand, Gravel, Rock, Clay															

*4-18 Before you choose a site, you should consider all your choices.*

If you are buying a house that someone else built or if you are renting an apartment, you should look carefully at the placement of the dwelling on the site. It will have a great effect on your microenvironment. It will determine the views, the amount of sunlight and the amount of protection from wind you will have.

If you are building a house, you have the opportunity to choose the site and the type of house you want. You can place the house exactly where you want it on the site. This gives you the chance to make the house and the site work together to form an attractive and satisfying microenvironment.

### Natural restraints

Careful planning is needed to make the most of your site. You will meet many *restraints* or obstacles. Some will be natural, and some will be legal.

One kind of natural restraint is the *topography* of a site. Topography is the slope or lay of the land. Sites that are flat make the job of mowing grass easy. Flat lawns are also good places for children's games and lawn furniture. See 4-19.

Hilly sites are more difficult to maintain, but they are often very attractive. Some houses (such as split-level houses) look best on hilly sites.

Sites with extremely steep slopes have some disadvantages. A dwelling built at the top of a slope may be difficult to reach, especially in winter. Also, soil may wash away and cause land erosion.

*Landscaping* can be done to change the topography of a site. Small hills can be built to make the site more attractive, as shown in 4-20. Landscaping also includes the addition of trees, shrubs and gardens.

**Soil and water.** Soil conditions affect both the site and the dwelling. Poorly drained soils freeze and expand. This can cause sidewalks and driveways to crack and bulge. Plants have difficulty growing in shallow or nonporous topsoils.

High water levels can cause swampy yards, wet basements and poor plant growth.

**Orientation to the sun.** Dwellings that have large exposures to the south or west will have much sunlight. They may need protection from the intense summer sun. Some dwellings are shaded by trees. Shade can also be provided by built-in features, as in 4-21.

In regions where sunlight is almost always welcome, houses are often built with large amounts of glass, 4-22. Glass allows sunlight to bring light and warmth into the dwellings.

The width of the overhang on a roof affects the amount of sunlight that enters a building. Wider overhangs block out more sunlight. The time of year also affects the amount of sunlight received, 4-23. Because of Earth's changing position in relation to the sun, more sunlight reaches the northern hemisphere during the summer.



GEORGE GALE

4-19 The topography of this site is very flat. It is a good place for running games.



4-20 Landscaping has added greatly to the beauty of this house and site.

DANNY CLEVENGER



4-22 The abundant use of glass permits sunlight to enter this dwelling.



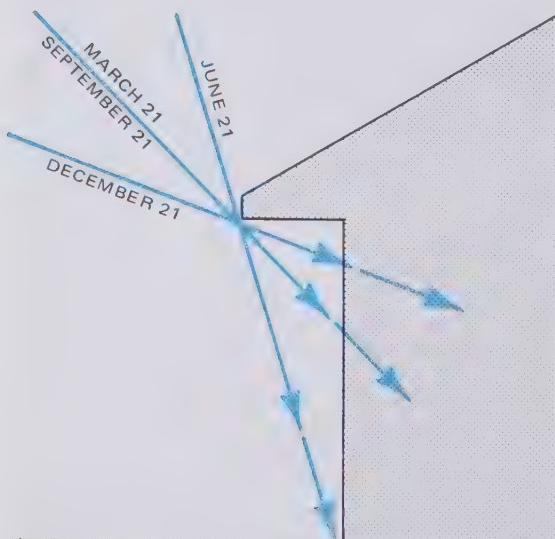
4-21 A flat roof provides shade for a corner of this patio.

SUN VALLEY POOLS

**Orientation to the wind.** Dwellings can be located so they are protected from strong winds. Windbreaks are used to provide some of this protection. Trees and shrubs are natural windbreaks. Walls and fences of stone or wood, as shown in 4-24 and 4-25, are also windbreaks. A garage placed on the north side of a dwelling will usually eliminate drafts from cold winter winds and reduce heating costs.

In most regions, the prevailing (most frequent) wind changes direction with the season. This should be taken into consideration when planning for protection from the wind. The illustration in 4-26 shows a dwelling that is well-oriented to both the sun and wind.

**Orientation to scenery.** A pleasant view is desirable, but it is not always provided by nature. If necessary, you can create a nice view. Landscapers use gardens, shrubs and decorative fences to change the scenery. See 4-27 for an example of a landscaped view.

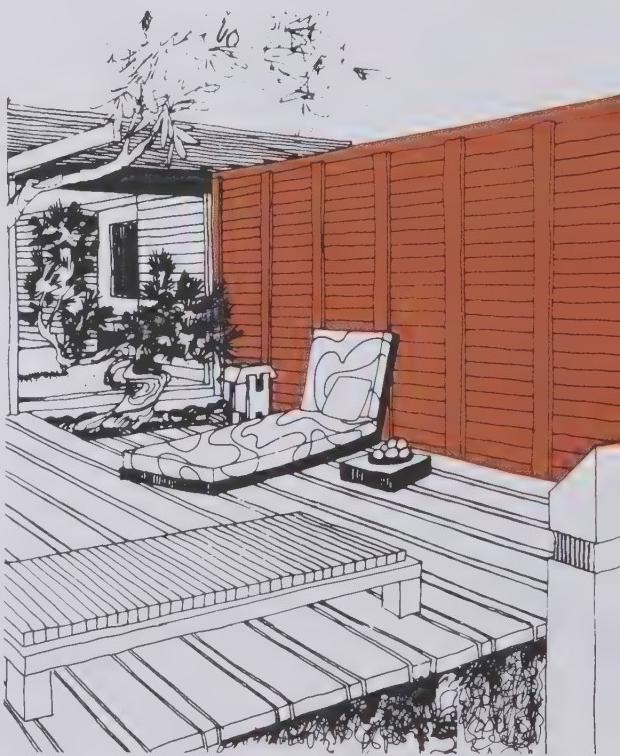


4-23 The sun shines at different angles on the south side of a dwelling at different times of the year. By knowing this angle, architects can plan a proper roof overhang.



GEORGE GALE

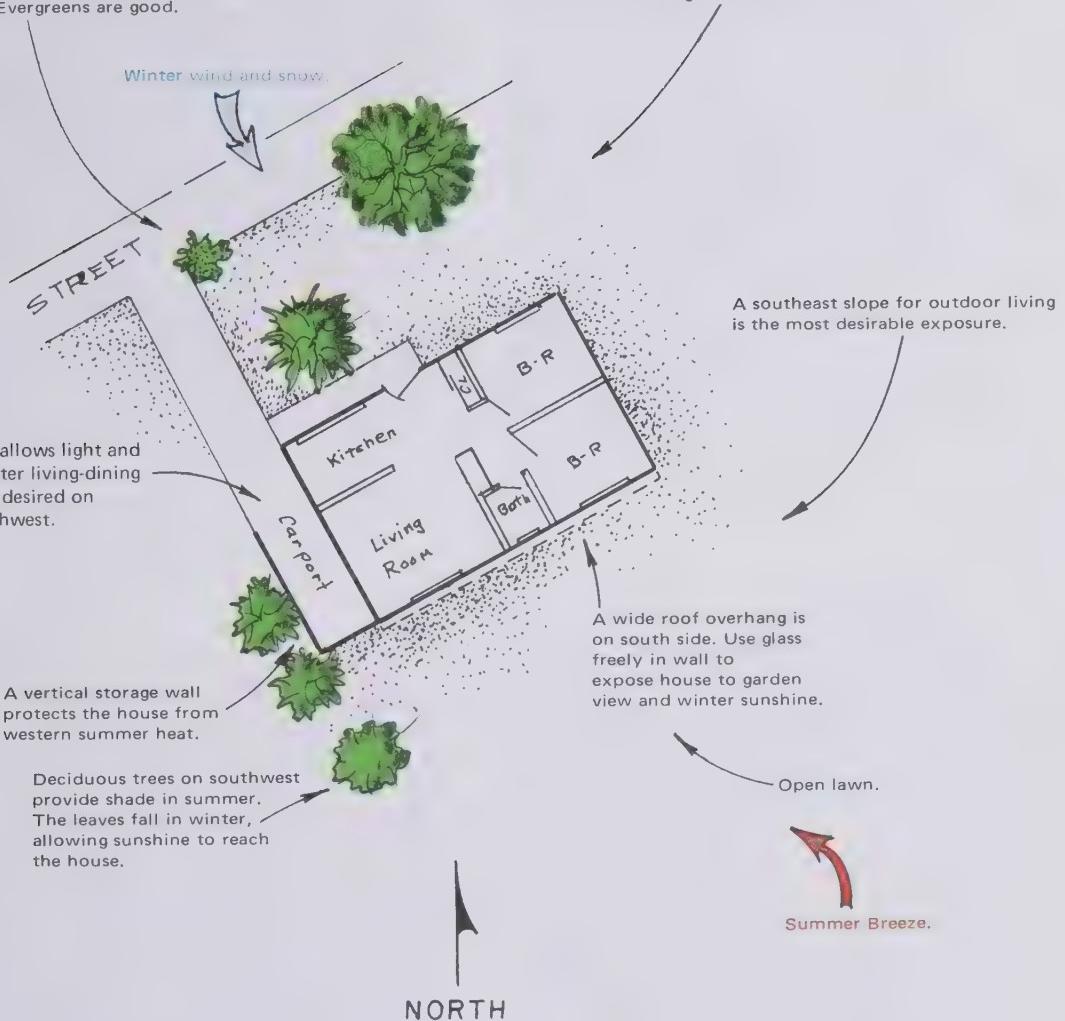
4-24 The wall around this patio protects the house from strong winds.



4-25 Notice how windbreaks are used to protect this recreation area.

Trees and shrubs form a windbreak to protect against both snow and wind in winter. Evergreens are good.

A small public zone is good for this exposure, especially as it allows a large outdoor space facing southeast.



4-26 Orientation to sun and wind are important factors to consider when deciding about the location of a dwelling on a site.

### **Legal restraints**

Legal restraints affecting sites may be federal, state or local laws. They are established for your protection.

The *minimum property standards (MPS)* are an example of a federal law. These standards regulate the sizes of lots. They are set by the Federal Housing Administration (FHA).

MPS vary according to the shape and location of a site. In some cases, the minimum size of a lot is 65 ft. (19.8 metres) wide and 130 ft. (39.6 metres) from the front to the back. Look at 4-28 to see a plan for a lot that meets these MPS. A dwelling constructed on such a lot is shown in 4-29.

Higher standards than the MPS may be set by the local government or by the developer. State and local authorities also establish limits and standards for the quality of construction, for water supplies and for disposal of wastes. Do you have a housing authority office in your community? If so, what legal restraints do they enforce?

### Zones within the site

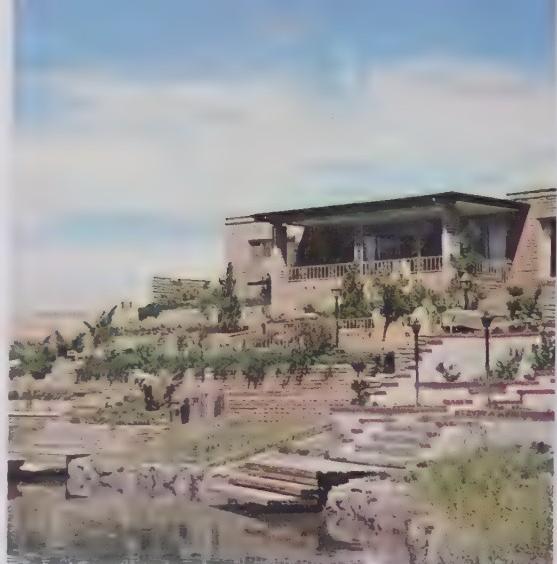
The part of the site that is not covered by the dwelling can be divided into three zones:

1. Public zone.
  2. Service zone.
  3. Private zone.

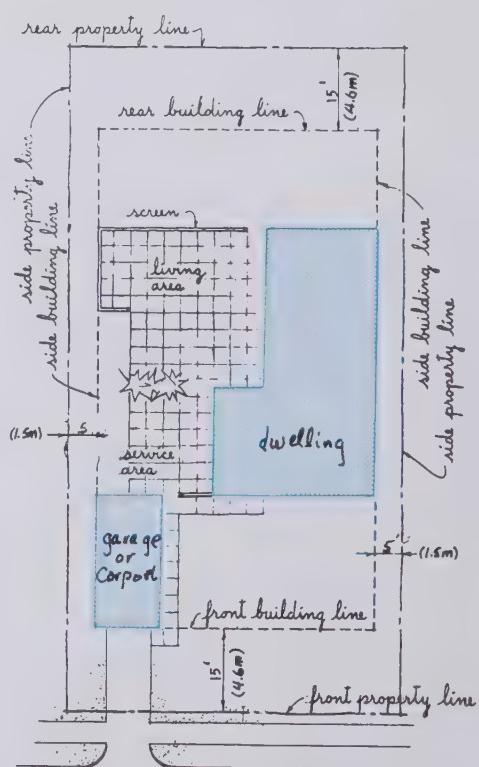
The *public zone* is the part of the site that can be seen from the street. It is usually in front of the house. If the house is on a corner lot, the public zone is L-shaped. It includes the front and one side of the lot as shown in 4-30. Since the public zone is seen more often than any other part of the site or dwelling, people work hard to make it attractive. They use pebbles, flagstone, trees, shrubs and gardens to create an interesting and beautiful microenvironment.

If the house is as far forward on the lot as the law permits, the public zone is small. Many people want small public zones because they are easier to maintain. Compare the public zones shown in 4-31 and 4-32.

The *service zone* includes sidewalks, driveways and storage areas for such things as



*4-27 Terraces and plantings on a lakeshore have changed the view in this microenvironment*



**4-28 This plan meets the MPS (minimum property standards) for a rectangular lot in the middle of a block.**



4-29 Only 2 ft. (0.6 m) of space separate the roof lines of these two houses, yet they meet MPS.

GEORGE GALE



4-30 Corner lots have L-shaped public zones. They are larger than the public zones of most other neighborhood lots.



4-31 Small public zones require little care.

DANNY CLEVENGER



4-32 For a large public zone, the dwelling must be located farther from the street. A large lot is needed.

FRANK FOLTZ

trash, tools, lawn equipment and cars. See 4-33. A service zone may also include a clothesline for drying laundry. In this zone, convenience is most important.

At least a part of the service zone can usually be seen by others, 4-34. However, many people choose to have as much of it screened from view as possible. See 4-35.

The *private zone* is for recreation and relaxation, 4-36. It provides a place where children and pets can play. Private zones can be separated from public ones by using shrubs, hedges, screens, fences or walls.

Many living units want a large private zone. In it, they can place yard accessories such as outdoor furniture and barbecue equipment. Yard games and swimming pools are also found in the private zones of some dwellings.

Other living units prefer a small private zone so they can care for it easily. Some want a dwelling without a private zone; they want all the available space inside the dwelling.

In 4-37 and 4-38, you can see how two different dwellings are placed on sites to provide all three zones — public, service and private.



4-33 Sidewalks, driveways and garages are part of the service zone.

DANNY CLEVINGER



GEORGE GALE

4-34 Although a driveway can often be seen by others, a garage door hides part of the service zone from view.



4-35 Most of the service zone for this house is hidden. The driveway begins at left and leads behind the house to the garage.

4-36 Both children and adults can relax and have fun in this private zone.





GEORGE GALE

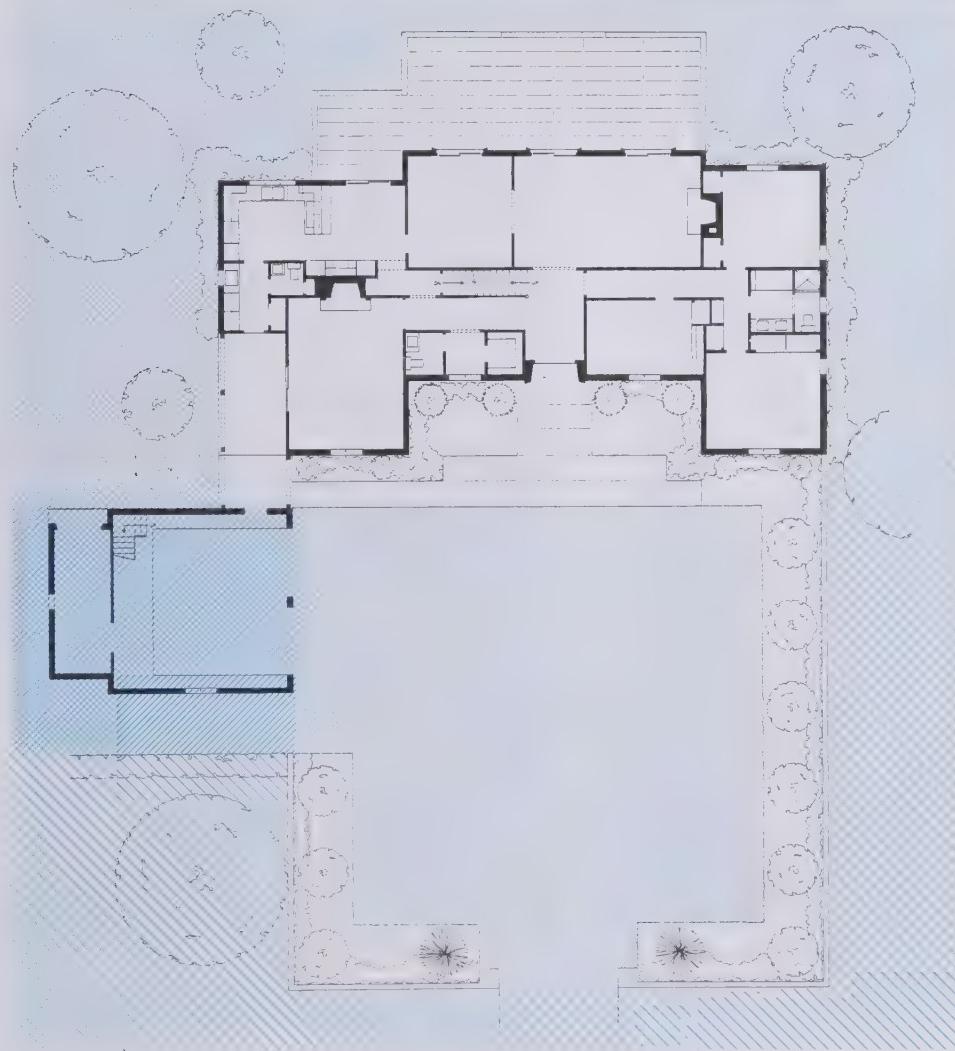
4-37 *The drive is part of the service zone.*

*The lawn area is the public zone.*

*The private zone is behind the fence.*



HOME PLANNERS, INC.



4-38 *The dwelling shown above has a huge private zone. In the plan shown at left, you can see that the public and service zones are much smaller.*

## DWELLING

After choosing a region, a community, a neighborhood and a site, your next decision is to choose a dwelling. The two major groups of dwellings are *multifamily* and *single-family*. Within each group are several variations.

### Multifamily dwellings

Multifamily dwellings are a type of housing designed for more than one living unit. Each living unit within the dwelling has its own distinct living quarters.

Today, life-styles are changing, and the demand for multifamily housing is increasing. Single persons, young married couples and retired persons have always been the living units most interested in this kind of housing. Now, in addition to these, more nuclear families, one-parent families and other living units are turning to multifamily units. They are usually less costly and easier to maintain than single-family dwellings.

Almost all *rental*, *cooperative* and *condominium* units are in multifamily dwellings. (A few are single-family dwellings.) Some of these units are in high-rise buildings, 4-39. Others are in low-spread buildings as shown in 4-40. They may be huge, or they may be just duplexes or fourplexes, 4-41.

*Rental apartments* range from the tenement house, 4-42, to the exclusive penthouse. (A penthouse is an expensive suite located at the top of a luxury apartment building.) They also vary in the number and type of facilities offered. Many apartment buildings have washing machines and dryers, tennis courts and swimming pools for the residents. Some huge, high-rise buildings are like a small city. They include business offices, schools, stores and recreational facilities.

*Cooperative apartments* or *co-ops* are not very common. The entire building is owned by a nonprofit corporation. The people who live in the building are the stockholders in that corporation. Therefore, when people move into a co-op, they "buy" their apartment by purchasing shares in the corporation.

Residents of a co-op have a voice in how

the corporation is run. They even get the chance to select their neighbors. If a living unit wants to move into the co-op, the corporation votes on it. If the vote does not pass, the living unit cannot move into the apartment.

Another advantage of living in a co-op is that neighbors meet each other and work together to create a pleasant housing environment. A disadvantage is that if they disagree with the others on an issue, they will be forced to go along with the decision of the majority.

*Condominium units* (sometimes called condos) are somewhat like cooperative units.



4-39 The Marina Towers are high-rise buildings in Chicago where several hundred families live.

ROLOC



DANNY CLEVENGER

*4-40 Low-spread apartment buildings require larger lots than high-rise ones.*



*4-41 Duplexes provide housing for two living units. Tripleplexes house three. Fourplexes or quadraplexes, as shown above, house four living units.*



H. ARMSTRONG ROBERTS

*4-42 Tenement houses are apartment houses in the poorer sections of cities.*

They are both owned by the people who live in them, and they are usually multifamily dwellings. The difference is in the type of ownership. Instead of buying stock in a corporation, condominium buyers purchase the apartments as if they were separate houses. At the same time, the buyers receive a portion of the common areas. They share the ownership of the lot, recreational facilities and hallways with the other condominium owners.

The terms cooperative and condominium describe types of ownership. They do not refer to building designs. You cannot tell if a building has rental, cooperative or condominium units by looking at it, 4-43.

### **Single-family dwellings**

In spite of the rising trend for multifamily dwellings, the most popular type of housing today is still the single-family dwelling. It is designed to house one family or living unit.

**Attached dwellings.** Some single-family dwellings are attached dwellings. That is, they are designed for one living unit, but they share a common wall with the dwellings on each side.

*Town houses* and *row houses* are names for these dwellings. Usually, entire sidewalls of dwellings are shared, but there are variations, as shown in 4-44.

The owners of an attached, single-family dwelling or a town house own the dwelling itself and the land on which it is located. They have their own entrance and yard area.

**Free-standing dwellings.** When single-family dwellings are not connected to another unit, they are called free-standing. They vary in size, design, color, features and cost.

The most individualistic type of house is one that is *custom-designed* and *custom-built*. An architect considers the needs, values and life situations of a living unit and then designs a house to "fit" them. A contractor then builds the house according to the architect's plans and the living unit's wishes. This kind of house is "a dream house." It is very expensive and takes a long time to plan and build.

Some houses are *custom-built from stock*

*plans*. In these cases, persons go to a contractor and look at house plans. They choose the plan that they want, and the contractor builds a house for them on their site.

*Owner-built* houses are for those with lots of skill, time and energy. They can be less costly in terms of money than other types of housing. Sometimes a contractor is hired to put up the house shell, and the living unit does the interior work. In other cases, the living unit does it all. Building a house can be a great experience for a family if they have the necessary human resources.

Examples of *tract* houses are shown in 4-45. They are built by a developer who builds an entire neighborhood at once. The houses are built before they are sold to living units. One or two sets of plans are used over and over to save money. Because few variations are made, the houses lack individuality, but they are less expensive to buy than custom-built houses.

*Modular* dwellings are built in factories and then moved in modules (sections) to the sites. See 4-46 and 4-47. Today's modular housing has improved so much in appearance and quality that you often cannot tell a modular house from a house that was built on the site piece-by-piece. Modules are sometimes used in multifamily dwellings too.



**4-43 These apartments could be rentals, co-ops or condominiums. You can't tell by looking at them.**

*Kit houses* are also built in factories. The shell of a kit house is finished at a factory. It is then moved to the site and completed on the inside according to the buyer's wishes. A kit house is pictured in 4-48.

Like modular houses, the quality of kit houses is improving. This type of dwelling is less costly than most others. The total cost is

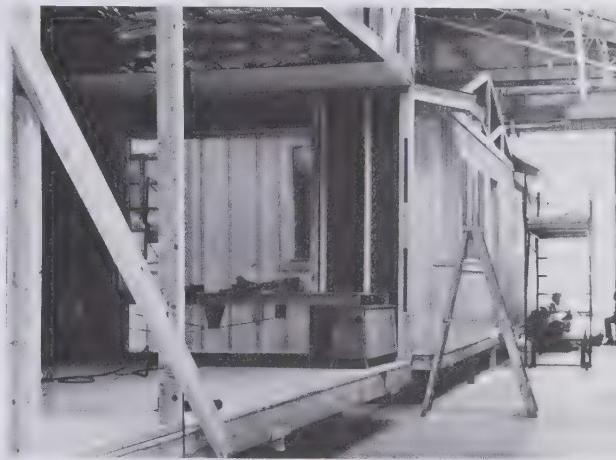
influenced by several factors. Some of these factors are: the size of the house, the style of the house, the distance from the factory to the site, and whether the materials and labor for the inside are purchased with the kit or separately.



4-44 These town houses share only part of their sidewalls.  
DANNY CLEVINGER



4-45 Tract houses look very much alike.  
GEORGE GALE



4-46 Above. Walls are assembled to floor system of a modular house. Trusses and roof are then added to complete the sections. Below. Completed sections are ready for delivery to the building site.  
TOM KIRBY ADVERTISING FOR BULLOCK CO

*Mobile homes* are still another kind of factory-built, single-family dwelling. Most dwellings are "fixed." That is, they are attached to a foundation which is anchored to the ground. Mobile homes are an exception. They can be moved by attaching wheels to them. (Mobile homes should not be confused with *motor homes* which are automotive vehicles equipped as a home, 4-49.)

Moving a mobile home is not as easy as it sounds. Each state has laws that must be followed when moving a mobile home. Some local governments have passed additional rules. The zoning laws of some neighborhoods and communities prohibit the placement of mobile homes in certain areas.

Small mobile homes, like the one shown in 4-50, can be moved by the owners as long as all laws are followed. Larger mobile homes are more difficult to move. For instance, the one in 4-51 would have to be moved in two parts. A company that specializes in such moving could handle the job, but most large units are set permanently on a site.

#### More decisions

Other considerations when choosing a dwelling include its condition if it is not new, the price, the size, the design and the way it looks on the site. The chart in 4-52 can guide you as you make decisions about a dwelling.

#### MOVING TO A NEW LOCATION

How many times have you and members of your living unit moved from one place to another? How do you compare to the average American family which moves once every five years?

Many moves made by living units are from one dwelling to another within the same neighborhood or community. Short moves may be expected as a living unit ends one stage of its life cycle and enters another. Changes in life-style, occupation, socioeconomic status or other life situations also cause people to move.

If you decide to move, how will you do it? You have a number of alternatives. You may



4-47 Above. Modular housing is available in small, simple houses and (below) in more deluxe ones.

MARLETTE



4-48 This kit house is a beautiful single-family dwelling.

NATIONAL HOMES CORP.



4-49 Motor homes are automotive vehicles. They are a good type of "home" for people who travel a great deal.

GENE BALZER



4-50 Mobile homes no more than 14 ft. (about 4 m) wide can usually be moved by the owners.

DANNY CLEVINGER



4-51 To move double-width mobile homes, they must be split into two sections.

CHAMPION HOME BUILDERS CO

hire a moving company. They will move everything for you if you desire. They will even do the packing for you. See 4-53 and 4-54. Ask them for an estimate of their fee before you make a decision. The distance between dwellings and the amount of work required determine the cost. This method of moving is the most costly in terms of money, but it saves you time and energy.

About two-thirds of all moves are do-it-yourself efforts. If you do not own a truck or

trailer, you can rent one and move yourself, 4-55. In this case, you will need someone to help load heavy items. Family and friends often help when the move is only a short distance.

Another alternative would be to sell all of your household goods and buy replacements when you reach your new location. This might be a wise choice if you were planning to go abroad for a few years. Can you think of other times this would be a good decision?

### THE DWELLING

DECISIONS	RANGE OF AVAILABLE CHOICES		
<b>Ownership</b>	Rental Cooperative Condominium		
<b>Form</b>	High rise Few units Few extra facilities	to to to	Low spread Many units Many extra facilities
	Custom-designed and custom-built Custom-built from stock plans Owner-built Tract house Modular dwelling Kit house Mobile home		
<b>Landscaping</b>	Dwelling "fits" site Many trees and shrubs	to to	Dwelling looks out of place No trees or shrubs
<b>Outside Zones</b> Public Service Private	Large	to	Small
<b>Structural Quality</b>	High Standard Deteriorating Deteriorated		
<b>Price</b>	High Affordable Low		
<b>Size</b>	Huge Adequate Too small		

*4-52 Many options are possible when you choose a dwelling.*



UNITED VAN LINES

4-53 Movers can make a change of housing easier for even the youngest family members.

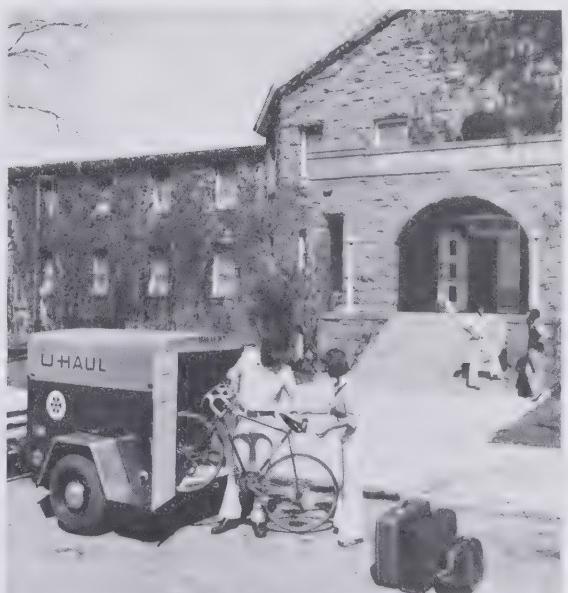


UNITED VAN LINES

4-54 Packers must use care in preparing breakable belongings for moving.



U-HAUL RENTAL SYSTEM



U-HAUL RENTAL SYSTEM

4-55 Rental trucks and trailers come in various sizes. You can use them to move your belongings.

# *to* Know

architect . . . attached dwelling . . . community . . . condominium units . . . contractor . . . cooperative units . . . custom-built from stock plans . . . custom-designed and custom-built . . . developer . . . dwelling . . . fixed dwelling . . . free-standing dwelling . . . kit house . . . landscaping . . . minimum property standards . . . mobile home . . . modular dwelling . . . multifamily dwelling . . . neighborhood . . . owner-built . . . physical neighborhood . . . planned neighborhood . . . private zone . . . public zone . . . region . . . rental units . . . restrictions . . . service zone . . . single-family dwelling . . . site . . . social neighborhood . . . subdivision . . . topography . . . tract house . . . zoning rules

# *to* Review

Write your answers on a separate sheet of paper.

1. List the five major decisions concerning the location of housing.
2. Give three reasons you might have for living in a certain region.
3. Regions are divided into communities and communities are divided into \_\_\_\_\_.

4. Neighborhoods in which all buildings are occupied by living units are called:
  - a. Residential.
  - b. Commercial.
  - c. Industrial.
5. Explain the meaning of the following:
  - a. FHA.
  - b. MPS.
6. List two natural and two legal restraints that affect sites.
7. Name and describe the three zones within the site.
8. What are the differences among rental, cooperative and condominium units?
9. A fixed dwelling is one that:
  - a. Shares a common wall with the dwelling on each side.
  - b. Is not connected to another building.
  - c. Is attached to a foundation which is anchored to the ground.
10. An architect \_\_\_\_\_ the dwelling and the contractor \_\_\_\_\_ it.
11. How does a tract house differ from one that was custom-built from stock plans?
12. Describe three forms of factory-built dwellings.

3. Choose another community in which you would like to live. Write to its Chamber of Commerce to find out the advantages of living there.
4. With a small group of classmates, prepare a brochure on your neighborhood.
5. Find magazine and newspaper articles about planned communities.
6. At your public library, check the zoning regulations and building codes of your community to find out what control they exercise over housing.
7. Make drawings of dwellings on sites showing the three zones of a site.
8. Look at the classified advertising section of a newspaper. Compare the facts given for single-family dwellings with those given for multifamily dwellings. Which type is most often listed for sale? For rent?
9. Brainstorm in small groups and make lists of things to check when choosing a place to live.
10. Describe your ideal region, community, neighborhood, site and dwelling.

# *to* Do

1. Choose a region other than your own in which you would enjoy living. Study an atlas and encyclopedia to find out more about the area.
2. Make a list of advantages of living in your own community.

## Acquiring housing

*After reading this chapter, you will be able to discuss the advantages and disadvantages of renting and buying dwellings; to list several items to check before signing a lease; to explain the steps in buying a dwelling; to define many legal and financial terms related to acquiring housing; and to describe condominium and cooperative ownership.*

**D**o you remember the three major categories of housing decisions? Location and form are two of them. The other one is *acquisition*. Regardless of where your home is located or what form it has, you will make choices about acquiring or getting it. Acquisition involves two basic aspects – process and cost.

### Process

*Process* is the method you use to accomplish something. Thus, process in housing refers to the method you use to acquire any part of your housing. See 5-1.

Getting something that you have not had before is called *initial acquisition*. Buying your first lawn mower or your first sofa is an initial acquisition.

Process also includes repairing or replacing any part of housing. It may mean replacing your dwelling because it has burned. It may mean finding a different home in a new area because you have changed jobs. Or it may mean something as simple as replacing a worn-out washer in a leaky water faucet.

Another part of process is the operating and maintaining of housing. Who operates the lawn mower at your house? Does the same person maintain it?

The way you pay for your housing is also

included in process. You can pay for things in several different ways:

- Full amount paid with cash or by check.
- Payment deferred by use of a credit card.
- Down payment made, and the balance paid over a period of months or years. This is called *installment buying*.

### Cost

When you think of *cost*, no doubt you think of money. In addition to the spending of money, cost also means the spending of other resources, 5-2.

Shopping for a new television set costs time and effort. Buying it costs money. This is the initial monetary cost (the first cost in terms of money). If the television does not work well, it will have to be repaired or replaced. These costs can demand even more of your resources of money, time, energy and attitude. (You may become tired, frustrated and angry.)

Consider what is involved in replacing the plumbing in a dwelling. You would first have the cost of getting materials to replace the old lines. Additional costs would be the time and energy you would spend removing the old plumbing. If you did not have the time, energy and knowledge, you would have to pay someone else for using their resources.

### Process is related to cost

Process and cost are sometimes so closely related that they must be considered together. You have read about the processes for buying things. When you pay the full amount with cash, you pay only what the item is worth.

If you pay by check, you may have some banking costs. Some banks provide checks and checking services free; others charge amounts that vary according to the type of check you write.

Using the process of installment buying costs you the most money. This is because part of the money you are using belongs to someone else. That person, company or bank is *financing* you. They have paid your bill and are willing to wait for you to pay them back. But in the meantime, you must pay extra for

the privilege of using their money. This extra amount is called a *finance charge*. It includes the interest as well as any carrying charges. *Interest* is the price paid for the use of the money. It is stated as an annual percentage rate of the amount borrowed. *Carrying charges* are the amounts other than interest that are added to the price of something when it is bought by the installment buying process.

You can pay back the money you borrowed over a short or long period of time. The longer you take, the more interest you will pay. Most dwellings are purchased with *long-term financing*. You can take as long as 30 years to pay back the money you borrowed for a house. In the end, the interest may cost more than the house itself.

Today, *credit cards* are often used to buy things. The cost of using credit cards varies. You must pay a fee just to get some credit cards; others are free. You can use most credit cards without extra cost if you pay the full amount you owe by the date listed on the bill. This may be within 30, 60 or 90 days, depending on the company. If you pay only a part of what you owe by that date, finance charges will be added to the rest of the amount you owe. Interest rates are controlled by law, so you will be told exactly how much extra you will be charged.

## ACQUIRING THE DWELLING

Should you rent or buy? Home ownership is valued highly by some. To others, it is not important. They prefer to rent their homes. Some people would like to own a place in which to live, but for various reasons, they do not. They may not have the cash or credit that is needed to buy a house. Or perhaps they are not sure how long they will be located in one place.

Deciding whether to spend the money you allow for housing on rent or on the purchase of a dwelling calls for rational decision-making. Your choice will depend on your life-style, your stage of the life cycle and your other life situations.

## A PLACE TO RENT

About one-third of all Americans rent their homes. The majority of these are single persons, young married couples and senior citizens. They are known as *renters*, *lessees* or *tenants*.

Renters pay for their housing in monthly installments. When they first move into a dwelling, the landlord or lessor usually requests a *security deposit* in addition to the first month's rent. The security deposit insures the landlord against financial loss in case the renter fails to pay the rent or damages the dwelling. The amount of the security deposit is commonly one month's rent.

Renters are free to move as they desire. They need not worry about the value of property going up or down or about buying and selling. They have a clear idea of what housing will cost them. They have no hidden costs — like a new roof — that come with home ownership. Others are responsible for any needed repairs in their home. Since they do not own the dwelling, they can easily resist spending money to improve it.

Any type of dwelling can be rented, but the most common rental units are multifamily dwellings. Duplexes, triplexes and apartment buildings are usually occupied by renters. Single-family dwellings can be rented too, as well as vacation homes and travel homes.

Before you move into any rental unit, examine it closely. Take a checklist like the one in 5-3 with you. Be sure that you can answer each question and that you are happy with the answers. You want your housing to bring satisfaction, not frustration.

### The written lease

Rental agreements can be on a month-to-month basis or for a specific length of time such as one or two years. They can be either written or oral. The most common rental agreement is a *written lease*, 5-4. It is a legal document spelling out the conditions under which the tenant rents the property. It lists the rights and responsibilities of both the lessor (landlord) and the lessee (tenant).

## THE PROCESS OF ACQUISITION

DECISIONS		RANGE OF AVAILABLE CHOICES
Possessing	Own	Buy Build Own to rent
	Rent	Privately owned Publicly owned Company owned
Financing	Cash	Currency Check
	Terms	Short term Long term
	Sources	Current income Savings Private loans Commercial loans Governmental loans
Operating		Furnish Maintain Repair
Replacing		Sell Trade Abandon
Adapting		Remodel Refinish Redecorate

5-1 *When acquiring housing, you will want to consider all available choices.*

## THE COST OF ACQUISITION

TYPE OF COST	RESOURCES
Initial Operating Maintaining Replacing Financing	Knowledge Skill Energy Time Money Property

5-2 *Acquiring housing involves many kinds of costs. Resources are used to pay these costs.*

## A CHECKLIST FOR RENTERS

You can use the list of questions below to check an apartment before you move in. With some exceptions, you can also use it to log complaints about apartment conditions stemming from a landlord's failure to perform proper service or maintenance. Some questions cannot be answered by simple observation and may require interviewing tenants of other apartments in the building or asking the opinion of an expert knowledgeable in building problems (an architect or engineer).

1. What is the rent per month?
  2. Is a security deposit required? If so, how much is it, and under what condition is it held?
  3. Does the lease say rent can be increased if real estate taxes are raised, sewer or water assessments are hiked, or for any other reason?
  4. Do you pay extra (and how much) for such things as utilities, storage space, air conditioning, parking space, master TV antenna connections, use of recreational areas (such as pool or tennis courts), installation of special appliances, late payment of rent, etc.?
  5. Read the lease carefully. Mark any provisions that seem especially objectionable to you and try to have them removed from your lease. List also the provisions (not included) that you would like, such as a sublet clause. Try to have these added.
  6. Assess the maintenance services: Is there a resident superintendent? Are maintenance hours (for usual services) restricted? How is emergency service handled?
  7. How is refuse disposal handled? Are facilities easily accessible? Are they well kept and clean?
  8. Laundry facilities: How many washers and dryers are available? Are they in good working order? (A washer and dryer for every 10 apartments is a good ratio.)
  9. Building lobby: Is it clean and well lighted? Does it have a lock or other security provisions? Is there a doorman? If so, for how many hours a day? How are deliveries handled?
  10. Entrance and exit: Is an elevator provided? If so, is it in good working condition? Are the stairs well lit and in sound condition? Are fire exits provided? Is there a fire alarm or other warning system?
  11. Hallways: Are they clean and adequately lighted? Are they otherwise in good condition?
  12. Are there signs of insects present? Of mice or rats?
  13. Bathroom(s): Are the plumbing fixtures in good working order and reasonably clean? Does the hot water supply seem adequate? Are the tiles (if the room is tiled) sound?
  14. Kitchen: Is the sink in good working order, reasonably clean, and provided with drain stoppers? Does the stove seem to be in good working order and reasonably clean? Is the refrigerator in good working order? Does it have a separate freezing compartment? If there is a dishwasher, is it in good working order?
  15. Air Conditioning: Is the entire building air conditioned? If not, are there separate units, and are they functioning properly (if it's summer)?
  16. Wiring: Are there enough electrical outlets? (Two or three to a room is the minimum). Do all the switches and outlets work? Are there enough circuits in the fuse box (or circuit-breaker panel) to handle the electrical equipment you expect to install? (If there is a serious question, get an expert opinion.)
  17. Does the heating system seem to be in good working order? Is it providing adequate heat (if it's winter)?
  18. Is there a fireplace? If so, are there any signs (such as smoke stains) that it has not worked properly?
  19. Windows: Are any broken? Can they be opened and closed easily? Are screens provided? Are there drafts around the window frame? Does the landlord arrange for the outside of the windows (in high-rise buildings) to be cleaned? If so, how often?
  20. Floors: Are they clean? Are they gouged? Do they have any water stains indicating previous leaks?
  21. Ceilings: Are they clean? Is the plaster cracked? Is the paint peeling? Do they have any water stains indicating previous leaks?
  22. Walls: Are they clean? Is the plaster cracked? Is the paint peeling? Does the paint run or smear when rubbed with a damp cloth?
  23. Telephone: Are phone jacks already installed? Are they in convenient locations?
  24. Television: Is TV (or hi-fi) playing forbidden at certain hours? Is an outside antenna connection provided? Is there a cable TV connection?
  25. Is ventilation adequate? Is there an exhaust fan in the kitchen?
  26. Lighting: Are there enough fixtures for adequate light? Are the fixtures in good working order? Does the apartment get reasonably adequate natural light from the window?
  27. Storage space: Is there adequate closet space? Are there enough kitchen and bathroom cabinets? Is there long-term storage space available in the building for your use?
  28. Security: Does the entry door have a dead-bolt lock? A security chain? A through-the-door viewer?
  29. Soundproofing: Do the walls seem hollow (when thumped) or solid? Can you hear neighbors upstairs, downstairs, or on either side of you?
  30. Outdoor play space: Is it provided? If so, are facilities well maintained?
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**5-3 Keep these questions in mind  
as you search for a place to rent.**

# APARTMENT LEASE

UNFURNISHED

DATE OF LEASE	TERM OF LEASE		MONTHLY RENT	SECURITY DEPOSIT*
	BEGINNING	ENDING		

\* IF NONE, WRITE "NONE". Paragraph 2 of this Lease then INAPPLICABLE.

LESSEE	LESSOR
NAME •	NAME •
APT. NO. •	BUSINESS ADDRESS •
ADDRESS OF PREMISES	

In consideration of the mutual covenants and agreements herein stated, Lessor hereby leases to Lessee and Lessee hereby leases from Lessor for a private dwelling the apartment designated above (the "Premises"), together with the appurtenances thereto, for the above Term.

**ADDITIONAL COVENANTS AND AGREEMENTS (if any)**

## LEASE COVENANTS AND AGREEMENTS

**RENT**

1. Lessee shall pay Lessor or Lessor's agent as rent for the Premises the sum stated above, monthly in advance, until termination of this lease, at Lessor's address stated above or such other address as Lessor may designate in writing.

**SECURITY DEPOSIT**

2. Lessee has deposited with Lessor the Security Deposit stated above for the performance of all covenants and agreements of Lessee hereunder. Lessor may apply all or any portion thereof in payment of any amounts due Lessor from Lessee, and upon Lessor's demand Lessee shall in such case during the term of the lease promptly deposit with Lessor such additional amounts as may then be required to bring the Security Deposit up to the full amount stated above. Upon termination of the lease and full performance of all matters and payment of all amounts due by Lessee, so much of the Security Deposit as remains unapplied shall be returned to Lessee. This deposit does not bear interest unless and except as required by law. Where all or a portion of the Security Deposit is applied by Lessor as compensation for property damage, Lessor when and as required by law shall provide to Lessee an itemized statement of such damage and of the estimated or actual cost of repairing same.

**CONDITION OF PREMISES; REDELIVERY TO LESSOR**

3. Lessee has examined and knows the condition of Premises and has received the same in good order and repair except as herein otherwise specified, and no representations as to the condition or repair thereof have been made by Lessor or his agent prior to, or at the execution of this lease, that are not herein expressed or endorsed hereon; and upon the termination of this lease in any way, Lessee will immediately yield up Premises to Lessor in as good condition as when the same were entered upon by Lessee, ordinary wear and tear only excepted, and shall then return all keys to Lessor.

**LIMITATION OF LIABILITY**

4. Except as provided by Illinois statute, Lessor shall not be liable for any damage occasioned by failure to keep Premises in repair, and shall not be liable for any damage done or occasioned by or from plumbing, gas, water, steam or other pipes, or sewerage, or the bursting, leaking or running of any cistern, tank, wash-stand, water-closet or waste-pipe, in, above, upon or about said building or Premises, nor for damage occasioned by water, snow or ice being upon or coming through the roof, sky-light, trap-door or otherwise, nor for damages to Lessee or others claiming through Lessee for any loss or damage of or to property wherever located in or about said building or Premises, nor for any damage arising from acts or neglect of co-tenants or other occupants of the same building, or of any owners or occupants of adjacent or contiguous property.

**5-4 Responsibilities of the landlord (lessor) and the tenant (lessee) are clearly stated in a lease. (continued)**

**USE;  
SUBLET;  
ASSIGNMENT**

**USE AND  
REPAIR**

**ACCESS**

**RIGHT TO  
RELET**

**HOLDING  
OVER**

**RESTRICTIONS  
ON USE**

**WATER AND  
HEAT**

**STORE ROOM**

*5-4 (continued)*

5. Lessee will not allow Premises to be used for any purpose that will increase the rate of insurance thereon, nor for any purpose other than that hereinbefore specified, nor to be occupied in whole or in part by any other persons, and will not sublet the same, nor any part thereof, nor assign this lease, without in each case the written consent of the Lessor first had, and will not permit any transfer, by operation of law, of the interest in Premises acquired through this lease, and will not permit Premises to be used for any unlawful purpose, or purpose that will injure the reputation of the same or of the building of which they are part or disturb the tenants of such building or the neighborhood.

6. Lessee will take good care of the apartment demised and the fixtures therein, and will commit and suffer no waste therein; no changes or alterations of the Premises shall be made, nor partitions erected, nor walls papered, nor locks on doors installed or changed, without the consent in writing of Lessor; Lessee will make all repairs required to the walls, ceilings, paint, plastering, plumbing work, pipes and fixtures belonging to Premises, whenever damage or injury to the same shall have resulted from misuse or neglect; no furniture filled or to be filled wholly or partially with liquids shall be placed in the Premises without the consent in writing of Lessor; the Premises shall not be used as a "boarding" or "lodging" house, nor for a school, nor to give instructions in music, dancing or singing, and none of the rooms shall be offered for lease by placing notices on any door, window or wall of the building, nor by advertising the same directly or indirectly, in any newspaper or otherwise, nor shall any signs be exhibited on or at any windows or exterior portions of the Premises or of the building without the consent in writing of Lessor; there shall be no lounging, sitting upon, or unnecessary tarrying in or upon the front steps, the sidewalk, railing, stairways, halls, landing or other public places of the said building by Lessee, members of the family or other persons connected with the occupancy of Premises; no provisions, milk, ice, marketing, groceries, furniture, packages or merchandise shall be taken into the Premises through the front door of said building except where there is no rear or service entrance; cooking shall be done only in the kitchen and in no event on porches or other exterior appurtenances; Lessee, and those occupying under Lessee, shall not interfere with the heating apparatus, or with the lights, electricity, gas, water or other utilities of said building which are not within the apartment hereby demised, nor with the control of any of the public portions of said building; use of any master television antenna hookup shall be strictly in accordance with regulations of Lessor or Lessor's agent; Lessee and those occupying under Lessee shall comply with and conform to all reasonable rules and regulations that Lessor or Lessor's agent may make for the protection of the building or the general welfare and the comfort of the occupants thereof, and shall also comply with and conform to all applicable laws and governmental rules and regulations affecting the Premises and the use and occupancy thereof.

7. Lessee will allow Lessor free access to the Premises at all reasonable hours for the purpose of examining or exhibiting the same, or to make any needful repairs on the Premises which Lessor may deem fit to make; also Lessee will allow Lessor to have placed upon the Premises, at all times, notice of "For Sale" and "To Rent", and will not interfere with the same.

8. If Lessee shall abandon or vacate the Premises, the same may be re-let by Lessor for such rent and upon such terms as Lessor may see fit; and if a sufficient sum shall not thus be realized, after paying the expenses of such reletting and collecting, to satisfy the rent hereby reserved, Lessee agrees to satisfy and pay all deficiency.

9. If the Lessee retains possession of the Premises or any part thereof after the termination of the term by lapse of time or otherwise, then the Lessor may at Lessor's option within thirty days after the termination of the term serve written notice upon Lessee that such holding over constitutes either (a) renewal of this lease for one year, and from year to year thereafter, at double the rental specified under Section 1 for such period, or (b) creation of a month to month tenancy, upon the terms of this lease except at double the monthly rental specified under Section 1, or (c) creation of a tenancy at sufferance, at a rental of \_\_\_\_\_ dollars per day for the time Lessee remains in possession. If no such written notice is served then a tenancy at sufferance with rental as stated at (c) shall have been created, and in such case if specific per diem rental shall not have been inserted herein at (c), such per diem rental shall be one-fifteenth of the monthly rental specified under Section 1 of this lease. Lessee shall also pay to Lessor all damages sustained by Lessor resulting from retention of possession by Lessee.

10. Lessee will not permit anything to be thrown out of the windows, or down the courts or light shafts in said building; nothing shall be hung from the outside of the windows or placed on the outside window sills of any window in the building; no parrot, dog or other animal shall be kept within or about said apartment; the front halls and stairways and the back porches shall not be used for the storage of carriages, furniture or other articles.

11. The provisions of subsection (a) only hereof shall be applicable and shall form a part of this lease unless this lease is made on an unheated basis and that fact is so indicated on the first page of this lease, in which case the provisions of subsection (b) only hereof shall be applicable and form a part of this lease.

(a) Lessor will supply hot and cold water to the Premises for the use of Lessee at all faucets and fixtures provided by Lessor therefor. Lessor will also supply heat, by means of the heating system and fixtures provided by Lessor, in reasonable amounts and at reasonable hours, when necessary, from October 1 to April 30, or otherwise as required by applicable municipal ordinance. Lessor shall not be liable or responsible to Lessee for failure to furnish water or heat when such failure shall result from causes beyond Lessor's control, nor during periods when the water and heating systems in the building or any portion thereof are under repair.

(b) Lessor will supply cold water to the Premises for the use of Lessee at all faucets and fixtures provided by Lessor therefor. Lessor shall not be liable or responsible to Lessee for failure to furnish water when such failure shall result from causes beyond Lessor's control, nor during periods when the water system in the building or any portion thereof is under repair. All water heating and all heating of the Premises shall be at the sole expense of Lessee. Any equipment provided by Lessee therefor shall comply with applicable municipal ordinances.

12. Lessor shall not be liable for any loss or damage of or to any property placed in any store room or any storage place in the building, such store room or storage place being furnished gratuitously and not as part of the obligations of this lease.

**FORCIBLE  
DETAINER**

13. If default be made in the payment above reserved or any part thereof, or in any of the covenants or agreements herein contained, to be kept by Lessee, it shall be lawful for Lessor or his legal representatives, at his or their election, to declare said term ended, to re-enter the Premises or any part thereof and to expel, remove or put out the Lessee or any other person or persons occupying the same, using such force as he may deem necessary in so doing, and again to repossess and enjoy the Premises as in his first estate; and in order to enforce a forfeiture of this lease for default in any of its conditions it shall not be necessary to make demand or to serve notice on Lessee and Lessee hereby expressly waives all right to any demand or notice from Lessor of his election to declare this lease at an end on declaring it so to be; but the fact of the non-performance of any of the covenants of this lease shall in itself, at the election of Lessor, without notice or demand constitute a forfeiture of said lease, and at any and all times, after such default, the Lessee shall be deemed guilty of a forcible detainer of the Premises.

14. Lessee hereby irrevocably constitutes any attorney of any court of record of this state to enter Lessee's appearance in such court, waive process and service thereof, and confess judgment from time to time, for any rent which may be due to Lessor or his assignees by the terms of this lease, with costs and reasonable attorney's fees, and to waive all errors and right of appeal from said judgment and to file a consent in writing that a proper writ of execution may be issued immediately.

15. It is further agreed, by the parties hereto, that after the service of notice, or the commencement of a suit or after final judgment for possession of the Premises, Lessor may receive and collect any rent due, and the payment of said rent shall not waive or affect said notice, said suit, or said judgment.

16. Lessee will pay and discharge all reasonable costs, attorney's fees and expenses that shall be made and incurred by Lessor in enforcing the covenants and agreements of this lease.

17. The rights and remedies of Lessor under this lease are cumulative. The exercise or use of any one or more thereof shall not bar Lessor from exercise or use of any other right or remedy provided herein or otherwise provided by law, nor shall exercise nor use of any right or remedy by Lessor waive any other right or remedy.

18. In case the Premises shall be rendered untenable during the term of this lease by fire or other casualty, Lessor at his option may terminate the lease or repair the Premises within 60 days thereafter. If Lessor elects to repair, this lease shall remain in effect provided such repairs are completed within said time. If Lessor shall not have repaired the Premises within said time, then at the end of such time the term hereby created shall terminate. If this lease is terminated by reason of fire or casualty as herein specified, rent shall be apportioned and paid to the day of such fire or other casualty.

19. The words "Lessor" and "Lessee" wherever herein occurring and used shall be construed to mean "Lessors" and "Lessees" in case more than one person constitutes either party to this lease; and all the covenants and agreements herein contained shall be binding upon, and inure to, their respective successors, heirs, executors, administrators and assigns and be exercised by his or their attorney or agent.

20. If any clause, phrase, provision or portion of this lease or the application thereof to any person or circumstance shall be invalid or unenforceable under applicable law, such event shall not affect, impair or render invalid or unenforceable the remainder of this lease nor any other clause, phrase, provision or portion hereof, nor shall it affect the application of any clause, phrase, provision or portion hereof to other persons or circumstances.

WITNESS the hands and seals of the parties hereto, as of the Date of Lease stated above.

LESSEE:

LESSOR:

\_\_\_\_\_  
\_\_\_\_\_  
(seal) \_\_\_\_\_ (seal)  
(seal) \_\_\_\_\_ (seal)

**ASSIGNMENT BY LESSOR**

On this \_\_\_\_\_, 19\_\_\_\_\_, for value received, Lessor hereby transfers, assigns and sets over to \_\_\_\_\_  
all right, title and interest in and to the above lease and the rent thereby reserved  
except rent due and payable prior to \_\_\_\_\_, 19\_\_\_\_\_.

\_\_\_\_\_  
(seal)

**GUARANTEE**

\_\_\_\_\_  
(seal)

On this \_\_\_\_\_, 19\_\_\_\_\_, in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned Guarantor hereby guarantees the payment of rent and performance by Lessee, Lessee's heirs, executors, administrators, successors or assigns of all covenants and agreements of the above lease

\_\_\_\_\_  
(seal)  
\_\_\_\_\_  
(seal)

A written lease should include:

1. Address and specific apartment number.
2. Date signed.
3. Signatures of lessee(s) and lessor.
4. Date of occupation and length of lease.
5. Cost of rent; when and where it should be paid.
6. Statement on lease renewal. Is it automatic? See 5-5.
7. Allotment of specific responsibilities (snow-shoveling, lawn-cutting, repairing, painting, etc.).
8. An entry clause allowing the landlord to enter the apartment for specific reasons with notice or in an emergency.
9. A clause concerning who is responsible for water, electricity, gas, oil or other bills.
10. A statement concerning the security deposit: the amount, the conditions which must be met before it is returned and when it will be returned.
11. A clause on assigning and subletting. Check for any restrictions. (See Assigning and subletting a lease.)
12. A clause that states the final inspection of the premises will be made in the tenant's presence.
13. A statement that the lease can be changed only upon written approval of both the lessor and lessee.
14. If the tenant desires particular provisions to be included in the lease, the tenant should request to have them written down and added to the original lease. Such provisions might include necessary repairs, additional furniture or the installation of appliances. A specific date should be included by which time all changes are to be fulfilled. Signatures of both parties should be obtained.

Leases vary a great deal. Some of them include restrictions about guests, pets, excessive noise and the installment of extra locks. Be sure you are aware of any special restrictions in a lease before you sign it.

Suggestions for lessees or renters can often be secured from a renter's association in your

community or state. Sometimes the terms and words in a legal agreement are hard to understand. A member of the renter's association will be glad to explain them. *Do not sign a lease until you understand each statement in it.*

### **Assigning and subletting a lease**

If you have signed a lease, but you wish to move out early, you have three options:

1. Continue paying the rent until the lease expires.
2. Assign the lease.
3. Sublet the lease.

To *assign* the lease, you transfer the entire unexpired portion of the lease to someone else. After the assignment is transacted, you can no longer be held responsible for the lease.

To *sublet* the lease, you transfer part interest in the property. For instance, you could turn over your apartment to another person for a period of time. Both you and the other person would be held responsible to the landlord for all terms of the lease.

### **Breach of contract**

Landlords and tenants are sometimes unable to fulfill promises. If you cannot keep your agreement, you should try to work it out with your landlord. You should be aware that a lawsuit can be started against you for *breach of contract*. This is a legal term for not living up to an agreement. Lawsuits are costly and time-consuming.

The most common breach of contract on the part of the renter is failure to pay rent. In case of the loss of your job, you may not be able to pay the rent on schedule. You will want to make arrangements with your landlord if possible.

A landlord may also be guilty of breach of contract. If there is failure to provide water or a means of heating your dwelling, there is guilt. Major repairs are usually the responsibility of the owner. If such repairs are needed, you should give written notice to your landlord. If the repairs are not made, you will have grounds for breach of contract.

## Eviction

*Eviction* means forcing a renter to leave the property before the rental agreement expires. Landlords may begin a court action leading to eviction only if a tenant fails to live up to his or her responsibilities.

The eviction process varies from state to state. Nearly all states require a warning before a tenant can be evicted. The warning is a written legal notice.

## A PLACE TO BUY

Those who center their lives around their home are likely to be interested in home ownership. Home owners tend to be secure in their employment. They usually plan to live in one area for at least a few years. They may enjoy "puttering around" the house and yard. Many of them are in the expanding family stage of the life cycle and are ready to settle

### NOTICE TO TERMINATE TENANCY\*

TO: Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

You are hereby notified that I (we) shall be terminating my (our) tenancy of —

Apartment \_\_\_\_\_ at \_\_\_\_\_ Street \_\_\_\_\_

State of \_\_\_\_\_ on \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_.

Dated: \_\_\_\_\_, 19 \_\_\_\_\_.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

\* This form may be used by tenant as a 30 day notice to landlord to terminate month-to-month tenancy, or to give landlord 30 day notice prior to end of term created by rental agreement. It is also suggested that you retain a fully executed, and conformed copy of this notice, and on your copy, make a note of the name on whom same was served, and date and time of service.

*5-5 In some cases, if you do not give written notice that you will be moving when your lease expires, the landlord will automatically renew the lease, and you will be bound to it.*

ARIZONA RENTAL RESIDENTS ASSOC.

down in a neighborhood. Some owners have bought houses because they felt they were better money investments than savings accounts or stocks and bonds. Also, home owners can save money by taking advantage of tax deductions.

Buying the right dwelling is not a simple task. You will want a home in which you are comfortable and happy. How can you judge what is the right dwelling for you? First of all, it must be one that you can afford.

### The price is right

You can estimate your ability to pay housing costs in several ways. Three of them will be discussed here. When you compare housing costs computed by each of these three methods, you will be able to judge which one is best for you. To make figuring easy, suppose that your living unit has a \$15,000 annual income.

**Method one.** Probably the oldest method is to allow 2 1/2 times your annual income for the purchase price of a dwelling. Using this method, you should be able to afford a \$37,500 dwelling.

**Method two.** Divide your annual income by 60 and limit monthly housing costs to that amount. This method, as well as the first one, is based on your gross income. *Gross income* is income before deductions are made. Using this method, you could spend up to \$250 monthly for housing. (Both methods two and three can be applied to renters as well as to buyers.)

**Method three.** Keep monthly housing costs to not more than one-third of your monthly net income. *Net income* or take-home pay is the amount of money you receive after social security, income tax and other deductions have been taken from your paycheck. Because deductions vary from state to state and from job to job, this method can be used only when you know exactly what your take-home pay is. As a rule, method three allows you to spend more for monthly housing costs than method two.

Methods two and three mention "housing costs." These are more than just the mortgage

loan payments which are the regular long-term installment payments. Housing costs include property taxes and home insurance payments. They also include the cost of utilities — water, gas and electricity. Repairs and maintenance should also have a place in the monthly housing budget.

None of the methods described above is absolute. The amount you can afford depends on many other factors. If you have other debts, you will not be able to afford as much for housing. Other limitations would include having many members in your living unit (which means higher food, clothing and education bills) or having members who are in poor health. Also, if your new dwelling will require many repairs before you can live in it, you will have to save some of your money for this work.

On the other hand, if you have a large savings account, or if you have a good job and expect your salary to grow, you may be able to spend more for housing.

### To build or to buy?

Once you have decided what you can afford to spend for a house, you will want to decide whether to build one or buy one.

**Building a house.** Buying a lot and building a house involves four projects. They are done in the following order.

1. Choose a region, community, neighborhood and site. Finding the right location may take weeks or months. (Review Chapter 4.)
2. Find a house plan you like and one that "fits" the site. The plan may be custom-designed by an architect or chosen from stock plans.
3. Select the contractor. The process of choosing the right one starts with a check on the reputation and character of each contractor you are considering. Each one will need to look at your plans and specifications. (Specifications are a list of the type and quality of materials being used for the house.)

When you have narrowed your choices down to a few contractors, you

should ask each one for a *bid*. In other words, you should ask what each one would charge to construct the house. The bid should include the cost for both materials and labor.

You also need to know when work can be started and how long the job will take. Ask about the method and time of payments. Builders or contractors generally get paid by installments. These payments begin once the work is in progress.

4. Find enough money to pay for the house. If you don't have enough cash, you will have to borrow it. When you apply for a loan, you must furnish the appraised value of the dwelling. This can be estimated using the information given in your plans. The first loan will be for construction of the house. After the house is finished, you can receive a long-term mortgage loan.

**Buying a new house.** A popular way to acquire a new house is to buy one that has already been built. This process requires much less time than buying the lot and having a house built on it.

If the house was built by a reputable builder, the workmanship will be guaranteed for a period of time, usually one to two years after completion. Some top builders guarantee it for up to five years. You should have the guarantee in writing for your protection.

Buying a completed new house has some unique advantages. The most important one may be that you can move in as soon as the deal is *closed*, or when all the legal and financial matters have been settled.

Another advantage of buying a dwelling that has already been built is that you can see the finished product before you buy. If you are not a person who can visualize (imagine) how a house will look by studying the plans, this will be important to you.

**Buying a "used" house.** Many home buyers choose houses that have been previously occupied. These houses do have some advantages. The same number of rooms and the same amount of space will usually cost less in

used houses than in new ones. You can see how the people living there have made use of the space. You can visualize how your furniture will fit into that same space. When you look at rooms that are furnished, you can get a better idea of their size.

Some of the things that usually do not come with a new house may be included in the sale price of a used one. Draperies and the hardware to hang them are sometimes left by the previous owner. The carpeting may also be left in the dwelling. The lot may have mature trees and shrubs. Fences, walls and screens may have been added. These are costly in time, money and effort. See 5-6, 5-7 and 5-8.

Another bonus is that taxes in established communities are not likely to increase as rapidly as those in newer areas.

While you may find that some used houses are bargains, others will not be. Before you sign a contract agreeing to buy, you should check carefully for serious defects such as:

- The lack of a concrete foundation would indicate that the house will probably sag or shift. This will weaken the structure.
- Rotten or sagging roofs, walls or supports are signs of poor care. These are major construction defects and are costly to repair.
- Insect damage means major repairs and defects that may not be visible to the inexperienced observer.
- A bad neighborhood is not likely to improve.

The following conditions can be repaired if you want to spend some time, money and effort:

- The structure is good, but it needs paint.
- The plumbing is old and may need to be replaced soon.
- The walls, ceilings or floors show slight damage.
- Windows are broken.
- The roof needs repair.
- There is trash lying around the house.
- The yard looks shabby.

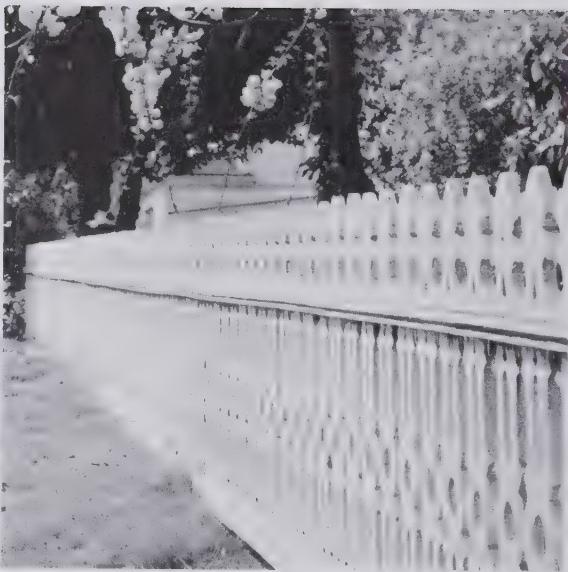
There is no perfect house. You will want to know the shortcomings before you buy. If

you do not find out about them until after you have moved in, it can be a shock. The shock becomes greater when you realize how much it will cost to fix them.

To avoid any unpleasant surprises, you should hire an *appraiser* before you buy a house. He or she will give you an expert estimate of the quality and value of the property. The *appraisal* will tell you how well the house is constructed, what its present condition is and what it is worth.

### Shopping for a place to buy

When you know what you can afford and what you want, it is time to go shopping. How do you shop for a house? One way is to contact a reliable real estate firm. They are in the business of selling land and buildings. They advertise in the real estate section of newspapers, 5-9. Not all of the properties they have contracted to sell are advertised in the paper. They have additional listings in the realtor's "catalog." See 5-10.



WESTERN WOOD PRODUCTS ASSOC.

*5-6 A fence adds beauty to a yard and can enclose the entire property. It may also serve to contain pets and protect children.*

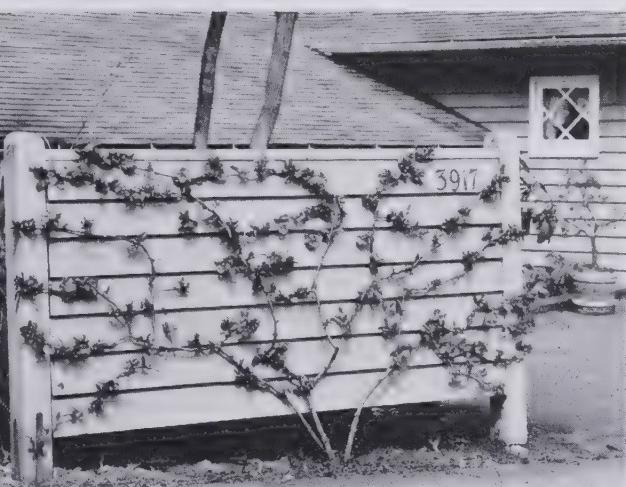


WESTERN WOOD PRODUCTS ASSOC.

*5-7 A patio wall screens activities from public view and helps block cold winds.*

Realtors can give you information about the community and neighborhood you are considering. They can screen out places that would not appeal to you. Sometimes they can help you get financing.

Someone will pay a *realtor's commission*



WESTERN WOOD PRODUCTS ASSOC.

**5-8 This screen does not enclose any area.  
Rather, it hides the patio from public view.  
Such screens are rarely offered in new homes.**

ADDR.	41184 Maple, Urbandale	RMS.	5	BDRM	3	BATH	1	GAR/CRPT	1½ ATT.	NOPRICE	\$51,900
STYLE	Bungalow	CONSTR.	Brick	BSMT	Full	SLAB	—	CRAWL	—	SQ.FT.	—
LOT SIZE	30x125	STRM.WD	Alum	DRS.	Alum	FRPL	—	AGE	25	MLS#	82833
ROOM	SIZE	LEV	CPT	DP	FLR	Range	Yes	Ref	Yes		
LIV	19.4x12	1	Y	Y	HWD	Dhw	No	Disp.	No		
DIN							Elem.	Jefferson			
FR							Jr. Hi	Prairie			
KIT	12x12.4	1	Y	Y	HWD	Dhw	Prairie				
BKFT							Paroc	Queen of Apost.			
BDRM	9.6x12.6	1	Y			Poss	30	DAC			
BDRM	10.6x10.9	1				R. Sell	Relocating				
BDRM	9x10	1				Mtg. Bal	N/A				
BDRM						Assume	N/A				
BDRM						Type	N/A				
BATH	6.9x5	1				Int.	N/A				
BATH						Held by	N/A				

**REMARKS:** 1½ Car garage with patio — Alum awnings — Gas central air — Roof 2 yrs. old — Fenced yard — Plaster walls — Walk to Bus — Basement finished — Humidifier

Realtor 3524

Phone 555-4040

Owner Tom and Sally Jones  
Salesman Ned Talon

Phone 555-7334  
Phone 555-1417  
LIST DATE TO PROP TYPE # 1.

**5-10 Realtors have many listings besides those you read about in ads. This sample is from a realtor's catalog.**

(fee) for these services. The commission will range from 5 to 10 percent of the selling price. It is usually paid by the seller. However, the price of the dwelling may be raised to include it.

Sometimes you can buy directly from the owner and save the fees paid to real estate

**5-9 Advertisements in local newspapers can help you find real estate firms.**



firms. See 5-11. However, you need a great deal of knowledge to shop on your own. If you do not have a general knowledge about real estate deals, the mistakes you might make could be much more costly than realtor fees.

When shopping for a house, do not rely totally on realtors. Tell people you know that you are looking for a place to buy. They may know about certain houses that you would like. They may even know of other people's plans to sell their houses in the near future.

Drive or walk through neighborhoods you like. You may find a model house on display, 5-12. Or you may find places with "for sale" signs in the front yards, 5-13.

As you look at places and talk with people, keep a written record about each house. Note the price and the location. Get the name and address of the owner. Write down the features of each house — the number of rooms, the size of the rooms, the size of the lot, the condition of the structure and any reactions you had when you saw it.

### Steps in buying a dwelling

After you have found the dwelling you want and have agreed to pay the price that is asked for it, you must settle many legal and financial matters.

**Agreement of sale.** When a buyer agrees to buy, and a seller agrees to sell, both of them sign a contract called an agreement of sale. Sometimes this goes by another name, such as a contract of purchase, a purchase agreement or a sales agreement.

The agreement of sale should include a detailed description of the real estate, its legal location, the total purchase price, the amount of the down payment and the delivery date of property. It should state that the sale will be complete only if the seller has clear title to the property.

Any specific terms and conditions of the sale should be spelled out in writing. For instance, an owner may agree to leave the draperies, carpeting, range and refrigerator in the house. Each of these items should be listed in the agreement of sale so the buyer knows exactly what he or she is buying. Other

specific terms that should be explained are how the cost of property taxes will be divided at the end of the year and who bears the risk of loss to the property as a result of fire, wind, etc. while the deal is being completed.

**Down payment.** As specified in the agreement of sale, the buyer pays a certain amount of money to the seller. This amount is usually a percentage of the total purchase price. It will go toward the payment of the total price. If the buyer wants the down payment to be refundable, he or she should insert a clause in the agreement of sale listing the conditions under which it will be refunded.

**Abstract of title.** Before a buyer buys a dwelling, he or she must be sure the seller is the legal owner. An *abstract of title* (a copy of all public records concerning the property) is reviewed by a lawyer or title insurance company. The abstract reveals the true legal owner and also any debts that are held on the property. This is important since the buyer becomes responsible for any such debts when he or she becomes the owner of the property. Often, the buyer purchases *title insurance* for protection against financial loss caused by errors in the abstract of title.

**Survey.** A survey is often done to assure the lender of the mortgage that a building is actually sited on the land according to the legal description.

**Securing a mortgage.** A mortgage is a claim against property that a buyer gives to the lender as security for the borrowed money. Paying off a mortgage is like installment buying. A down payment is made with cash. The rest of the money is borrowed and paid back in monthly installments.

Banks, savings and loan associations, mortgage companies and private individuals make loans. All sources should be investigated to find the best one for the buyer. A difference of only 1/2 percent in interest rates can have a dramatic effect on the cost of a mortgage.

There are several kinds of mortgages. The three most common ones are: conventional, FHA-insured and VA-guaranteed.

About 80 percent of home financing today is through *conventional mortgage loans*. They

are two-party contracts between a borrower and a lending firm. Anyone can apply for this kind of loan. They are more easily available and more flexible than other loans. Because these mortgages are not insured by the government, the lending firm has a greater risk in conventional loans. For this reason, this type of mortgage usually requires larger down payments than the others.

To apply for a conventional loan, you should ask for an appointment to see a mortgage loan officer. Explain to him or her that you want to buy a home. Your income, credit rating and personal references will be checked, and the dwelling's value will be appraised before your application is accepted or rejected.

*FHA-insured* loans are three-party contracts. They involve the borrower, the lending firm and the FHA. FHA stands for the Federal Housing Administration. It is part of the U.S. Department of Housing and Urban Development (HUD). FHA does not make loans, but it insures the lender against the borrower's possible default.



5-11 Dwellings can be sold by owners themselves. This saves the real estate commission.

GEORGE GALE



5-12 Model houses are open daily for inspection.



5-13 A realtor's sign advertises that a used house is for sale here.

Anyone can apply for an FHA-insured loan by going to an approved lending institution which then submits your application to the local FHA office.

When you compare FHA-insured loans to conventional ones, you will find that FHA-insured loans can often be secured with a smaller down payment, have interest rates that are set by the government and usually allow a longer period of time for repayment. Another difference is that for an FHA-insured loan, the borrower must pay a mortgage insurance premium of one-half of one percent per year on the unpaid balance of the mortgage. This premium is collected with the monthly payment and is in addition to the payments of interest and repayment of principal. The FHA uses this premium money to meet any insurance losses and to maintain its mortgage insurance reserves.

*VA-guaranteed loans* generally cost less than the other types. They are three-party loans involving the borrower, the lender and the Veterans Administration. The VA guarantees to repay the lender 60 percent of the outstanding balance on the loan (up to a certain limit) in case of default.

The VA does not require a down payment, but the lender may. The size of the down payment and the length of the repayment period are decided by the veteran and the lender.

If you are a veteran of the U.S. Armed Forces, you may apply for a VA-guaranteed loan at a lending institution. Your application will be submitted to a VA office. Eligibility requirements are set by Congress. The VA makes no charge for guaranteeing a loan for veterans of World War II, the Korean conflict or Vietnam. For other veterans, a fee of one-half of one percent of the amount of the loan is charged.

**Foreclosure.** Suppose that you have secured a mortgage and have bought a dwelling. It is the largest purchase you have ever made. You have agreed to make monthly payments for many years. What would happen if you lost your job or became ill?

Legally, the lending institution could fore-

close your mortgage. See 5-14. To recover the money you borrowed, persons from the lending institution could take your mortgaged property away from you and sell it.

You may be able to avoid mortgage payments until your financial situation returns to normal. To find out if this is possible, make a personal visit to the lending institution. Let people there know you are concerned because you cannot make payments. Ask them for an extension of time. Know your financial situation and be prepared to answer questions like these:

- Why did you miss your payments?
- Where are you currently getting income?
- When will you begin payments again?
- When can you pay the payments you missed?

**Closing costs.** Before the sale of real estate is final, many legal and financial matters must be settled. The fees and charges for settling these matters are called closing costs. They are paid by cash or check and are in addition to the price of the property. Closing costs can amount to several hundred dollars, so the buyer should ask for an estimate and should be sure to have enough money to pay for them.

Closing costs may include these items:

- Documentary stamps. (These are a state tax, in the form of stamps, required on mortgages and deeds when a title passes from one owner to another.)
- Recording the deed and mortgage.
- Escrow fees. (These are funds paid to an escrow agent to hold until a specified event occurs. After the event has occurred, the funds are released to designated persons. In practice, this often means that when the home owner makes mortgage payments, he or she pays an additional sum which is placed in a trust fund. Other expenses, such as insurance premiums, taxes and special assessments, are paid with the money in this fund.)
- Attorney's fee.
- Abstract of title and title insurance.
- Appraisal.
- Survey charge.

The seller also has some closing costs, such as the real estate commission and his or her share of the year's insurance costs, taxes and other assessments. The seller's closing costs may actually be higher than those of the buyer, but the price of the dwelling may be raised to cover them.

**The title and deed.** When the sale is closed, the *title* is passed to the new owner. The title is the rights of ownership and possession of particular property. The legal document by which the title is transferred is called a *deed*. The deed describes the property being sold and is signed and witnessed according to the laws of the state where the property is located.

Several types of deeds are used to transfer property. A *general warranty deed*, 5-15, transfers the title of the property to the buyer and guarantees that the title is clear of any claims against it. If any mortgage, tax or title claims are made against the property, the buyer may hold the seller liable for them. This type of deed offers the greatest legal protection to the buyer.

A *special warranty deed* transfers the title to the buyer and guarantees that during the time the seller held title to the property, the seller has done nothing to the property which has, or which might in the future, impair the buyer's title.

A *quitclaim deed* transfers whatever interest the seller has in the property. By accepting such a deed, the buyer assumes all legal and financial risks for the property.

**Insurance.** A home is a big financial burden. Home owners insurance or property insurance can help protect the investment of a home owner. Most mortgage holders require the home buyer to protect the home from loss through fire and other hazards. Several types of coverage are available, 5-16.

### Condominium ownership

In the past few years, *condominium* units have become very popular. The word condominium means common ownership. It is not a type of building. Condominium units range from duplexes to high-rise buildings, 5-17.

When you buy a condominium unit, you own your individual unit. In addition, you share ownership of the grounds, stairways and other common areas. In a way, you are both owner and renter. Although you own your unit, you must answer to the desires of the entire group of owners for certain things. For instance, the appearance of the outside of your unit and your yard may be under the control of the group's management.

The advantage of condominium ownership is that many facilities and services are usually provided. Swimming pools, tennis courts, yard care and snow removal are a few of the common ones. Condominium owners have the same financial advantages conventional homeowners have. They are investing in real estate and can take advantage of certain income tax deductions.

Condominium units are usually less expensive to build than free-standing, single-family houses. However, because of the "extras" you buy, the purchase price may be high. You will want to approach the purchase of a condominium unit carefully.

Buying a condominium unit is much like buying a house. You will need to choose a dwelling you can afford and a location you



GEORGE GALE

5-14 This deserted house belonged to a family that could not make mortgage payments during a financial crisis.

**WARRANTY DEED**

**Statutory (ILLINOIS)**

**(Individual to Individual)**

(The Above Space For Recorder's Use Only)

## THE GRANTOR

of the \_\_\_\_\_ of \_\_\_\_\_ County of \_\_\_\_\_ State of \_\_\_\_\_  
for and in consideration of \_\_\_\_\_ DOLLARS,  
in hand paid,  
CONVEY \_\_\_\_\_ LIQUIDATE

CONVEY \_\_\_\_\_ and WARRANT \_\_\_\_\_ to \_\_\_\_\_ in hand paid,

of the \_\_\_\_\_ of \_\_\_\_\_ County of \_\_\_\_\_ State of \_\_\_\_\_  
the following described Real Estate situated in the County of \_\_\_\_\_ in the  
State of Illinois, to wit:

hereby releasing and waiving all rights under and by virtue of the Homestead Exemption Laws of the State of Illinois.

DATED this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_

PLEASE \_\_\_\_\_ (Seal) \_\_\_\_\_ (Seal)  
PRINT OR \_\_\_\_\_  
TYPE NAME(S) \_\_\_\_\_ (Seal) \_\_\_\_\_ (Seal)  
BELOW \_\_\_\_\_  
SIGNATURE(S) \_\_\_\_\_

State of Illinois, County of \_\_\_\_\_ ss. I, the undersigned, a Notary Public in  
and for said County, in the State aforesaid, DO HEREBY CERTIFY that

personally known to me to be the same person \_\_\_\_\_ whose name \_\_\_\_\_ subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that \_\_\_\_\_ h \_\_\_\_\_ signed, sealed and delivered the said instrument as \_\_\_\_\_ free and voluntary act, for the uses and purposes therein set forth, including the release and waiver of the right of homestead.

Given under my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_

Commission expires \_\_\_\_\_ 19

NOTARY PUBLIC

**ADDRESS OF PROPERTY**

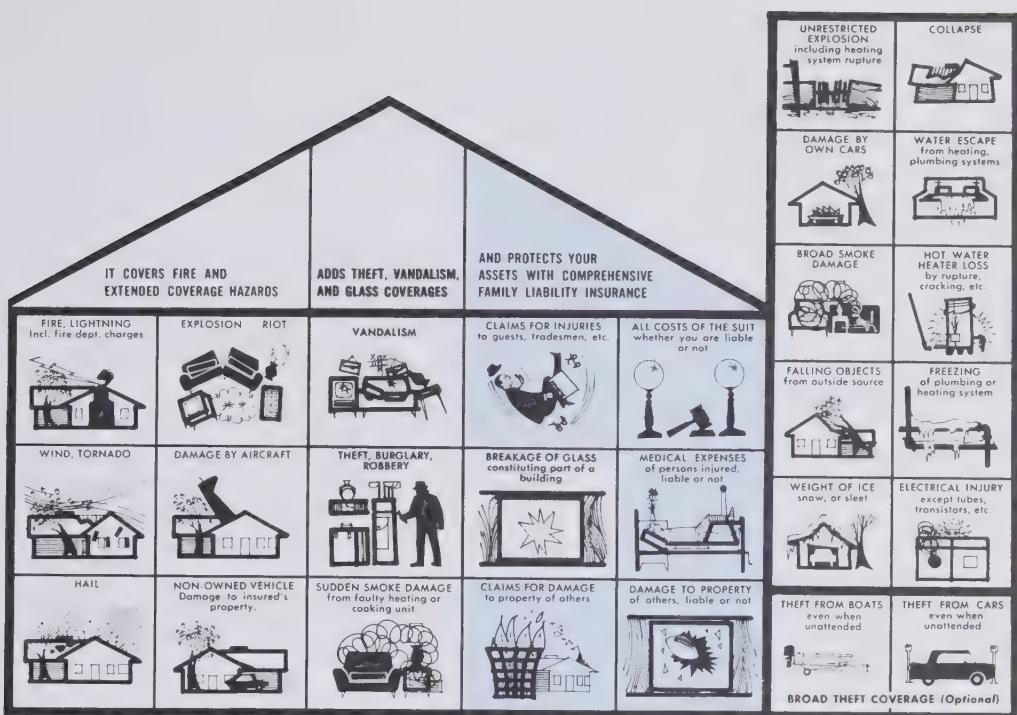
MAIL TO	Name:
	(Address)
	(City, State and Zip)

THE ABOVE ADDRESS IS FOR STATISTICAL PURPOSES  
ONLY AND IS NOT A PART OF THIS DEED

OR RECORDER'S OFFICE BOX NO. \_\_\_\_\_

(Address)

*5-15 A general warranty deed transfers the title of the property to the new owners and guarantees that the title is clear of any claims.*



CUMIS INSURANCE SOCIETY, INC.

*5-16 The basic coverage offered in this home owners insurance policy is shown in the main part of the house. Additional types of coverage are shown in the "chimney."*



*5-17 Some high-rise multifamily dwellings are condominium units.*

GEORGE GALE

like. You will have to decide between a new and a used unit. You will probably deal with either a real estate agent or the developer. You will sign an agreement of sale, make a down payment, secure a mortgage, pay closing costs and sign a deed.

You should take some extra precautions if you plan to buy a condominium unit. Be sure to read the *declaration of ownership* carefully. It contains the conditions and restrictions of the sale, ownership and use of the property within a particular group of condominium units. Check to see that you can sell your unit at any time and that you are liable for only the mortgage and taxes for *your* unit. Find out who has control of the management of the units. Get a detailed breakdown of your monthly payments. Besides mortgage payments and taxes, you will have to pay utilities, insurance and a *maintenance fee*. Maintenance fees vary widely. They are used for the repair and maintenance of the common areas. Check to see that the fee seems reasonable.

### **Cooperative ownership**

The word cooperative, like the word condominium, refers to a type of ownership, not a type of dwelling. Cooperative units are dwellings that are owned by a corporation whose members are all residents of the dwellings.

In a cooperative, the corporation owns title to the real estate. A resident buys stock in the corporation which entitles him or her to occupy a unit. For larger units, more stock is purchased. Instead of owning a particular unit, the resident owns an undivided interest in the entire building. However, he or she has an absolute right to occupy the unit for as long as the stock is owned.

As in any other corporation, the stockholders (in this case, the residents) elect a board of directors who operate the corporation for the benefit of all stockholders.

Buying a cooperative unit is different than buying a house. The first step — finding a unit — may be the most difficult one. Although the concept is growing in popularity, relatively few cooperative dwellings exist today.

The legal and financial aspects of cooperative housing are unique. When a corporation buys an entire building and a lot to begin a cooperative housing project, it secures a mortgage on the property. When you move into a cooperative building, you cannot get a mortgage since you are buying stock, not real estate. In many cases, you will need to pay the full price of the stock in cash. You will not pay closing costs since you will deal directly with the corporation.

The tax advantages are different than those for other types of home ownership. Most home owners can deduct the amount of money they pay for real estate taxes and for interest on their mortgages from their income tax. In a cooperative situation, the corporation owns the building; the corporation pays real estate taxes; and the corporation makes the mortgage payments. You, as a stockholder, can deduct a certain portion of what the corporation pays in real estate taxes and mortgage interest from your income tax.

Once you are in a cooperative dwelling, you will pay a monthly fee. This money is used for maintenance and taxes. It is also used to make the corporation's mortgage payments on the property. If some residents failed to pay this for any length of time, the corporation might be unable to make mortgage payments and would face the possibility of foreclosure. Because of this risk, check the financial stability of the corporation before you buy any stock.

Cooperative ownership has some advantages. Residents are likely to become a close-knit group. It is a "friendly" type of housing. In addition, residents have no maintenance worries.

# *to* Know

abstract of title . . . acquisition . . .  
 agreement of sale . . . appraisal . . .  
 assign . . . bid . . . breach of  
 contract . . . carrying charges . . .  
 closing costs . . . condominium . . .  
 conventional mortgage . . .  
 cooperative . . . cost . . .  
 declaration of ownership . . .  
 deed . . . down payment . . .  
 eviction . . . FHA-insured  
 loan . . . finance charge . . .  
 foreclosure . . . general  
 warranty deed . . . initial  
 acquisition . . . installment  
 buying . . . interest . . .  
 lease . . . lessees . . .  
 lessor . . . mortgage . . .  
 process . . . quitclaim  
 deed . . . realtor's commission . . .  
 security deposit . . . special  
 warranty deed . . . sublet . . .  
 survey . . . title . . .  
 VA-guaranteed loan

# *to* Review

Write your answers on a separate sheet of paper.

1. Acquisition involves \_\_\_\_\_ and \_\_\_\_\_.
2. Give examples of the following as related to housing:
  - a. Cost in effort.
  - b. Cost of financing.
  - c. Initial acquisition.
  - d. Maintenance cost.
  - e. Replacement cost.
3. List four advantages of renting a dwelling.
4. Define the term written lease and name eight things it should include.
5. True or False. When you sublet your apartment, you are no longer responsible for it.

6. If a tenant fails to pay rent, he or she could be sued for \_\_\_\_\_.
7. What are the three ways of figuring what you can afford to spend on housing?
8. As the new owner of a house on which you have a mortgage, you want to figure your monthly housing costs. Which of the following items would you include?
  - a. Income tax.
  - b. Mortgage loan payments.
  - c. Home insurance payments.
  - d. The heating bill.
  - e. Car payments.
  - f. Real estate taxes.
  - g. Maintenance allowance.
9. An appraiser will tell you:
  - a. What houses are available for sale.
  - b. If your mortgage is accepted or rejected.
  - c. What a particular house is worth.
10. Define an agreement of sale and name five things it should include.
11. Why should the buyer of a dwelling purchase title insurance?
12. Name three types of housing loans. Give one characteristic of each type.
13. How are the terms title and deed related?
14. When you buy a condominium unit, you buy:
  - a. Stock in a corporation.
  - b. Your individual unit.
  - c. Your individual unit and an undivided interest in all common areas.

# *to* Do

1. Study the cost of buying a color television with cash, by check, with a credit card or on an installment buying plan from the store. Which process costs the most in terms of money?
2. Visit an apartment building and ask the landlord for a copy of the lease used for those apartments. Does it include all that it should? Does it include any additional restrictions?
3. Have a class debate: Renting vs. Buying.
4. Working in small groups, consider various incomes of living units. Figure out how much each one can afford to spend on housing.
5. Look through the classified ads in your local newspaper. Working with the figures obtained in the previous exercise (4), choose a dwelling for each of those living units. Assume that some living units will rent and some will buy.
6. Discuss the advantages and disadvantages of buying each of the following:
  - a. A used house.
  - b. A new house that is already built.
  - c. A new house that will be custom-built.
7. Find a classified ad offering a house for sale. Investigate the monthly cost of buying it with three different types of loans.
8. Ask the manager of some condominium units for a copy of the declaration of ownership for the units. Examine it closely. Discuss the advantages and disadvantages of condominium ownership.



# The inside story

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## 6 The question of space, 125

What a floor plan shows, The quiet area, The work area, The social area, Traffic patterns, Survey the storage space, Extending space, Illusion of size, Space through lighting

---

## 7 Color and design in housing, 153

The color wheel, Hue, Value, Intensity, Neutral colors, Warm and cool colors, Color harmonies, Elements of design, Principles of design, Goals of design, Backgrounds, Floors, Walls, Ceilings

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## 8 Decisions about lighting, 187

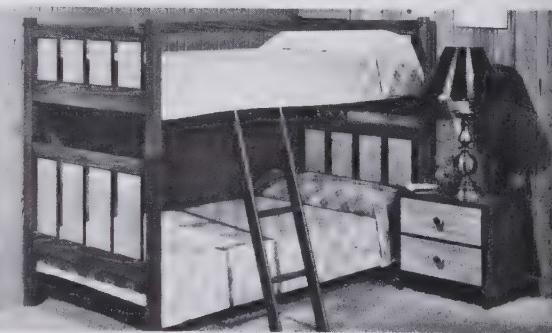
Natural light, Windows and window treatments, Artificial light, Incandescent and fluorescent light, Reflection and absorption of light, Diffused light, Direct and indirect lighting, Lighting for visual comfort, Lighting for safety, Lighting for beauty, Lighting fixtures, Lamps

---

## 9 Furnishings and equipment, 213

Choosing furniture, Furniture construction — wood — plastic — metal — glass, Upholstered furniture, Sleep furniture, Consumer protection, Choosing furniture styles, Choosing accessories, Choosing major appliances

*The inside of your home reflects your personality. It should be beautiful as well as convenient.*



## *The question of space*

*After reading this chapter, you will be able to evaluate the use of space in a dwelling. You will know how to interpret a floor plan, how to organize space by grouping rooms according to function, how to plan safe and convenient traffic patterns, how to make the most of storage space and how to extend the space within a dwelling.*

*By using space to its best advantage, you can make your home seem larger.*

**F**

Frank Lloyd Wright once said, "The reality of the building is the space within."

Designers of dwellings know this. They are as concerned about the *interior* (inside) as they are about the *exterior* (outside) of their buildings.

In all parts of the dwelling, the way space is divided is of great importance. It is one of the most basic concerns in housing.

Interior space is divided into areas according to its intended use. To give satisfaction to the people living there, the space divisions must satisfy their needs and values. The life-style of the living unit will determine how the space is used. Only the members of the living unit will know exactly what suits them. When planning how to use the space in their home, they should consider their activities, habits and life situations.

The most common method of arranging space is to divide it into rooms. Buyers or renters almost always want to know the number of rooms in a dwelling. This is usually their first concern. Realtors know the importance of describing the different rooms. They often indicate the number and uses of the rooms in their advertisements. See 6-1.

## WHAT A FLOOR PLAN SHOWS

The easiest way to see what a dwelling looks like is to walk through it. But if that is not possible, the next best thing is to look at a drawing of it.

A *floor plan*, 6-2, is a drawing of all the rooms on one floor of a building. Most floor plans that are shown to prospective home buyers are simple drawings. Their main purpose is to show the location of rooms, doors, windows, storage areas and hallways. In 6-3, you can see the symbols used in floor plans. By studying 6-4, you will learn how to interpret a floor plan.

The builder of a home uses a *blueprint* as a guide, 6-5. This is a photographic reproduction of the original floor plan. A blueprint is an accurately *scaled drawing*. That means that it is less than full size, but everything in it is reduced proportionately. For instance, every  $\frac{1}{4}$  in. may represent 1 ft. (20 mm may represent 1 m).

Blueprints are more detailed than most floor plans. They include the following:

- Size and location of rooms.
- Form and location of doors and windows.
- Thicknesses of walls and partitions.
- Stairways.
- Kitchen cabinets, major appliances and fixtures.
- Bath fixtures.
- Built-in storage such as closets, counters and shelves.
- Any additional features such as a terrace, patio, garage or carport.

If neither a blueprint nor a floor plan is available, you can draw a simple floor plan. You will need to take many measurements and convert them to scaled dimensions. Using graph paper will make your task easier. See 6-6 and 6-7. The most common scale is  $\frac{1}{4}$  in. equals 1 ft. (For metric measurements, use the scale 20 mm equals 1 m.)

## GROUPING BY FUNCTION

As you look at floor plans, you will notice that certain rooms of a dwelling are usually

located next to each other. This is because those rooms are used for similar purposes or functions. Grouping rooms together by function is an efficient way to organize space.

Most of the space within a home will fall into one of these three groups:

1. The *quiet area*, including bedrooms and bathrooms.
2. The *work area*, including the kitchen, laundry area, utility room and garage.
3. The *social area*, including the dining room, living room, family room and entrances.

### The quiet area

The quiet area in most homes consists of bedrooms and bathrooms, 6-8. These rooms provide space for sleeping, resting, grooming and dressing.

**Rentals**  
Classes 300 Through 390  
Unfurnished House Rentals  
EXCITING AND UNIQUE  
Dramatic townhouse. Different living for the style setters. Frank Lloyd Wright designed, featuring living room 18' ceiling, surrounded by glass, patio, 2 airums, private double door entry, powder room, spiral staircase to 2nd level with 2 bdrms, overlooking living room, full bath, private sundeck and walk out balcony from 2nd bdrm. All new carpeting, drapes, etc. Covered parking.

**(1) Real Estate**

4 bedroom Continental, 2 yrs. old, 2148 sq. ft., only \$42,500. Formal dining room, half acre lot, underground sprinkler systems, front & back, carpets, drapes, double garage, many more extras. Call for appointment. Let us show you this home.

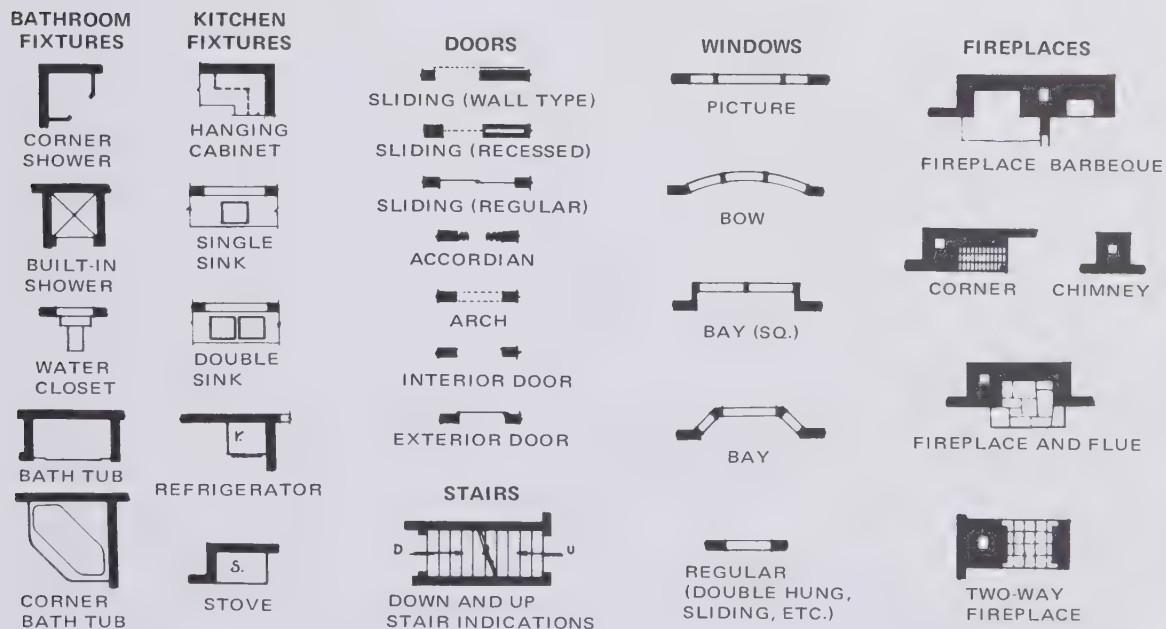
6-1 Real estate ads have more appeal when they give information about kinds of living space.  
Ads like these appear in newspapers every day.



METRIC CONVERSIONS

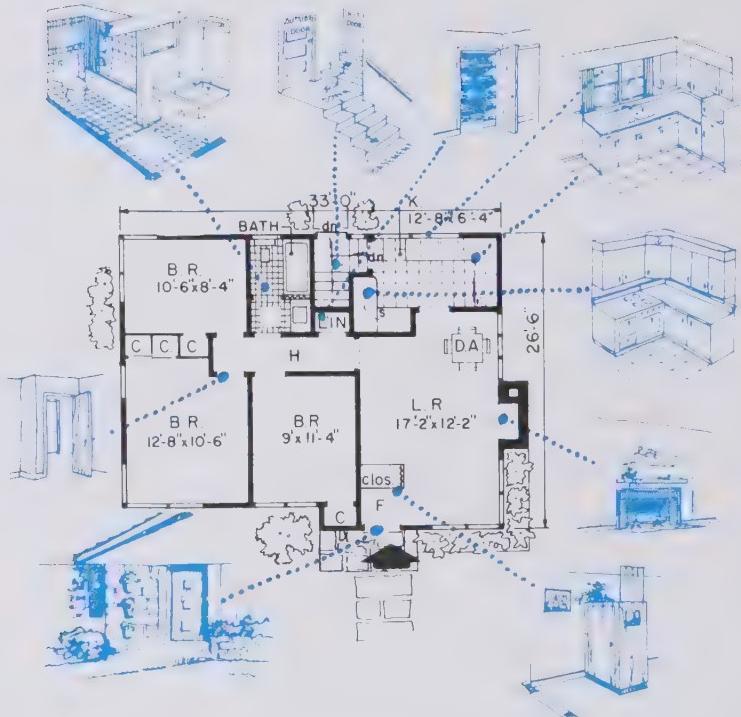
6 ft.	1.83 m
8 ft. 6 in.	2.59 m
10 ft.	3.05 m
10 ft. 4 in.	3.15 m
11 ft.	3.35 m
11 ft. 6 in.	3.50 m
12 ft.	3.66 m
12 ft. 4 in.	3.76 m
14 ft.	4.27 m
15 ft.	4.57 m
19 ft. 4 in.	5.89 m
21 ft. 2 in.	6.45 m
22 ft.	6.71 m
22 ft. 4 in.	6.81 m
28 ft. 8 in.	8.73 m
44 ft. 8 in.	13.61 m

6-2 This simple floor plan shows the location of each room. Few details are included.



6-3 These are some of the symbols used in floor plans to show how finished dwellings will look.

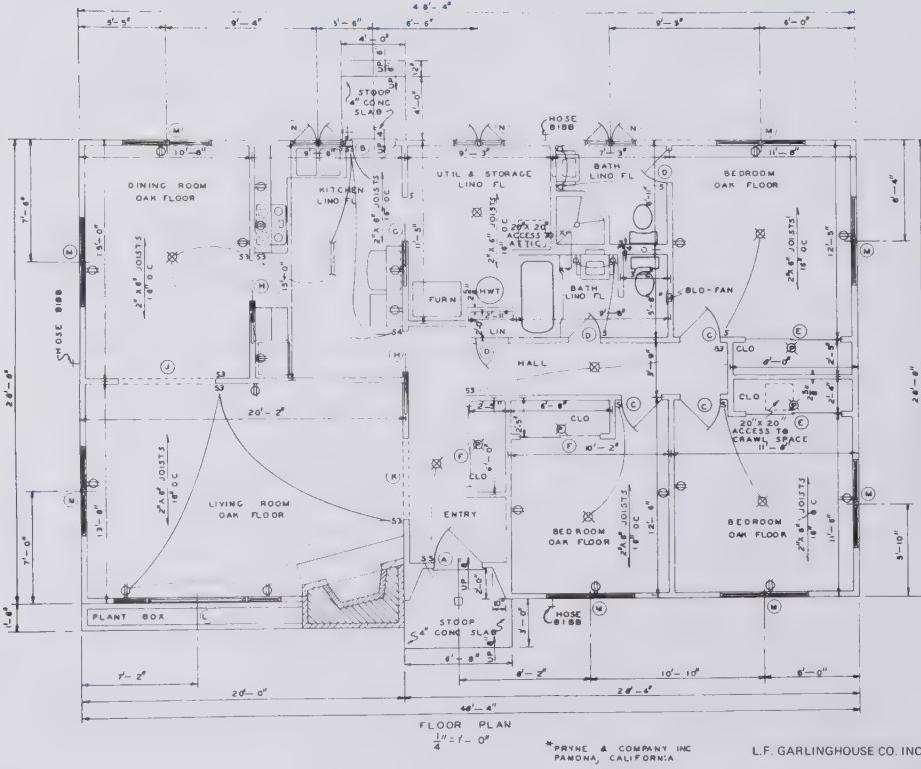
MASTER PLAN SERVICE, INC.



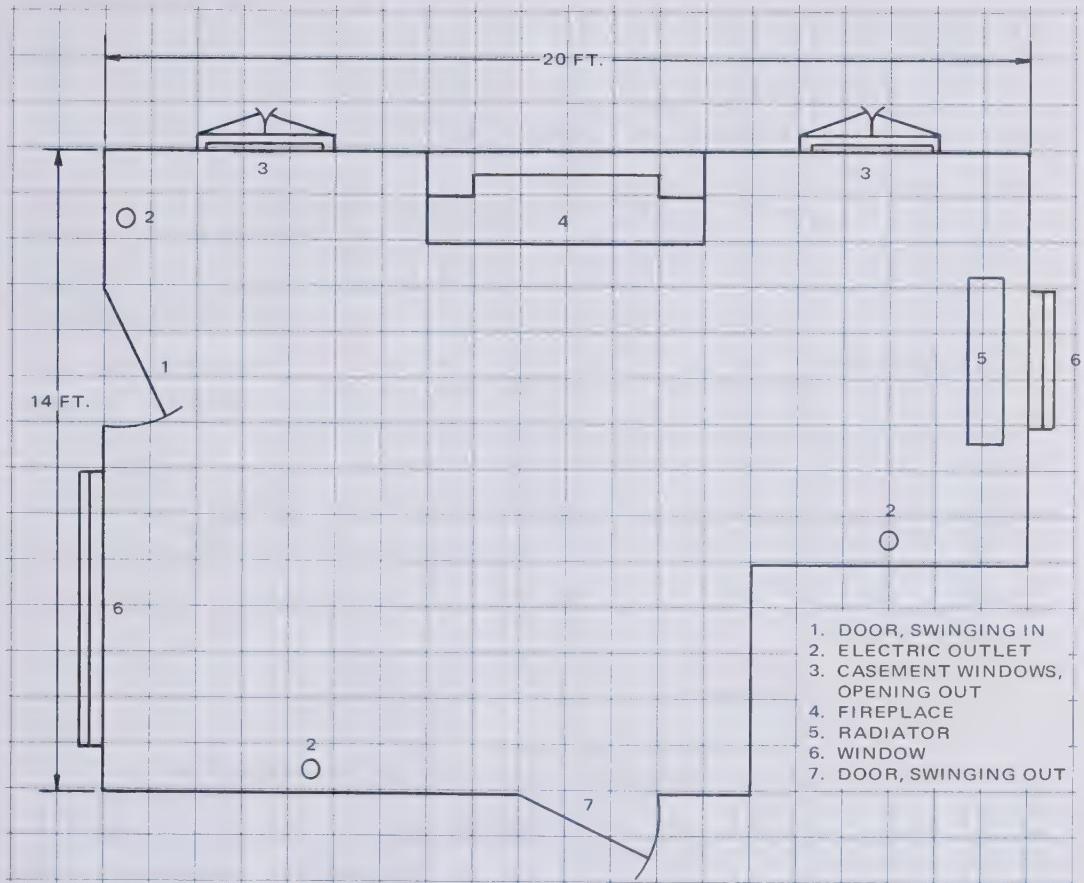
**6-4 "Reading" a floor plan is a matter of picturing what the symbols mean.**

**METRIC CONVERSIONS**

6 ft. 4 in.	1.93 m
8 ft. 4 in.	2.54 m
9 ft.	2.74 m
10 ft. 6 in.	3.20 m
11 ft. 4 in.	3.45 m
12 ft. 2 in.	3.71 m
12 ft. 8 in.	3.86 m
17 ft. 2 in.	5.23 m
26 ft. 6 in.	8.07 m
33 ft. 0 in.	10.06 m



**6-5 Blueprints have details and dimensions not found in simplified floor plans. From them, builders can get the exact information they need.**



*6-6 Graph paper simplifies the use of a scale. Here, 1/4 in. represents 1 ft. Note the use of symbols.*

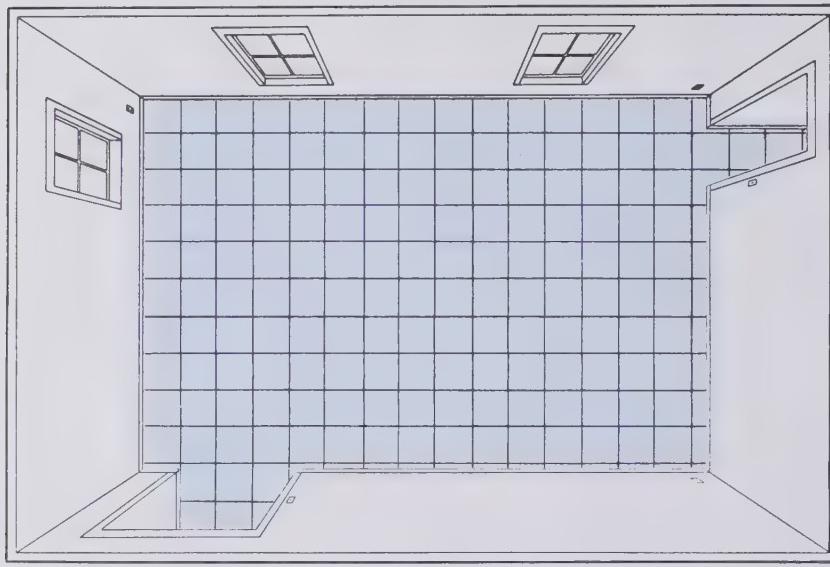
TAKEN FROM "YOUR HOME FURNISHINGS DOLLAR,"  
MONEY MANAGEMENT INSTITUTE OF HFC, CHICAGO, IL

Sleep and rest are primary needs. They are among the first needs to be considered when planning the use of space. The quiet area of a home offers the best setting for rest and relaxation, 6-9. It is usually a comfortable and private place.

In many homes, each person has a separate room. In other homes, this is not possible or even desirable. The important thing is to

insure comfort for each person. In the quiet area, the spatial needs of individuals should be placed ahead of those of the group.

Space for dressing and grooming is another part of the quiet area. These activities require privacy and storage space for clothes and grooming supplies. Both bedrooms and bathrooms help fulfill these spatial needs. See 6-10 and 6-11.



*6-7 Miniature rooms can be made by adding walls to a floor of graph paper. Doors and windows are sketched on the walls which are then folded up and fastened at the corners. Here, 20 mm represents 1 m. (1 square = 5 mm)*



*6-8 The shaded portion represents the quiet area.*



CHAMPION HOME BUILDERS CO.

6-9 Bedrooms in the quiet area of a home offer space for relaxation.



CHAMPION HOME BUILDERS CO.

6-11 Storage near the bathroom provides well-organized space for dressing.



NUTONE DIV. OF SCOVILL

6-10 Space for the storage and use of grooming items is plentiful in this bathroom.

Many rooms with sleeping or dressing space also provide space for other activities. These rooms are called *multipurpose rooms*. They are used during waking hours as well as during sleeping time. For instance, the room pictured in 6-12 provides space for resting, sleeping, dressing, reading and studying. Other "living-bedrooms" may include space for watching television, listening to music and working on hobbies.

#### The work area

Some rooms in a home are set aside as places to do work. This group of rooms is called the work area, 6-13. It includes all parts of the home that are needed to maintain and

service the other areas. Sometimes it overlaps with the service zone that is outside the home. (See Chapter 4.)

The space devoted to a work area varies from home to home. The kitchen, laundry area, utility room and garage are generally part of the work area. A workshop, sewing center or place for hobbies may also be included.

For most living units, the kitchen is used more often than any other room in the work area, 6-14. Centers of activity in a kitchen are the places where food is stored (refrigerator), where food is prepared (range) and where cleaning is done (sink). The imaginary lines that connect these three places form a



MARLETTE

**6-12** This multipurpose room provides space for studying and reading as well as for dressing and sleeping.



6-13 The shaded portion represents the work area.



6-14 The kitchen is usually the busiest room of the work area.

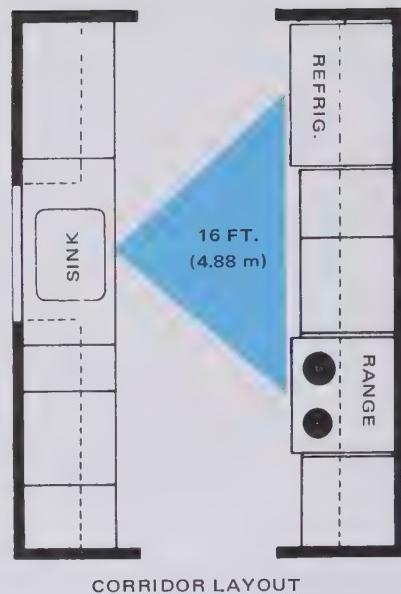
CHAMPION HOME BUILDERS CO

*work triangle.* Anyone preparing a meal in a kitchen will walk along the lines of that triangle several times before the meal is ready. In a well-designed kitchen, the total length of all sides of the work triangle will not exceed 22 ft. (6.70 m). Six basic kitchen designs are shown in 6-15. Notice that the distance around the work triangle in each design is less than 22 ft. (6.70 m).

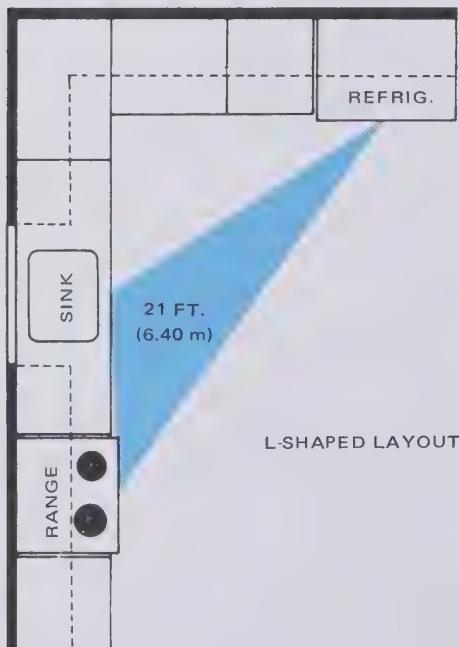
#### The social area

Members of a living unit spend much of their time in the social area of their home. The social area, 6-16, provides space for daily living, entertaining and recreation. It includes living rooms, family rooms, dining rooms and entrances.

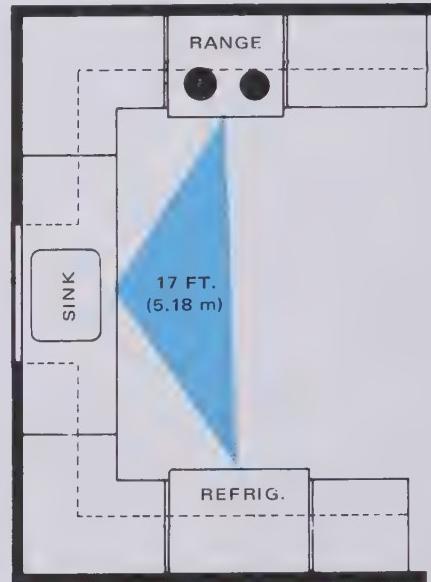
Living rooms, as shown in 6-17, provide space for family activities as well as for entertaining guests. If a dwelling has both a



CORRIDOR LAYOUT

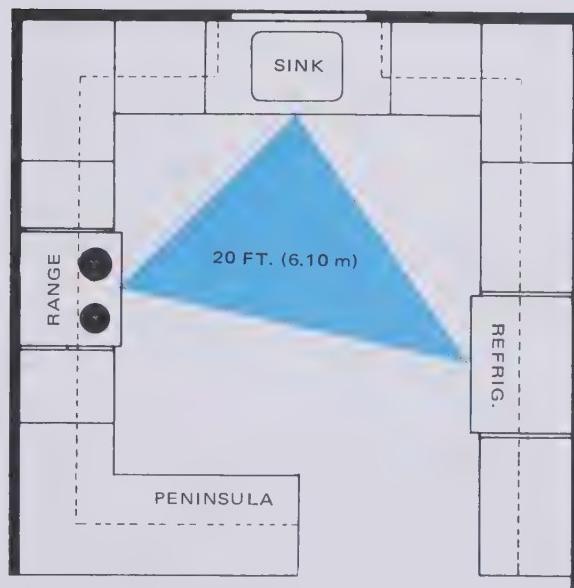
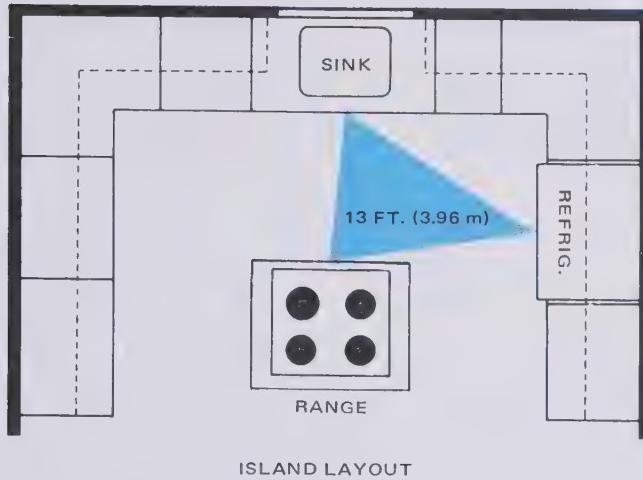


L-SHAPED LAYOUT



U-SHAPED LAYOUT

**6-15 Work triangles are shown in six different kitchen layouts. Shorter work triangles save more time and energy.**



living room and a family room, the family room often has a more casual atmosphere. It is used for recreation and relaxation, 6-18.

Every dwelling needs a place where people can eat. Some have a separate room, as in 6-19, that is used only for dining. It can be



6-16 The shaded portion represents the social area.



6-17 A living room is part of the social area of a home.



CHAMPION HOME BUILDERS CO.

*6-18 Family rooms are places for relaxing activities such as working on jigsaw puzzles.*



THOMASVILLE FURNITURE

*6-19 A separate dining room is often found in large dwellings.*

used for family meals and for entertaining guests. If it is not used regularly, the cost of having a separate dining room may be too great. In that case, the living unit may prefer to eat in a multipurpose room. Dining space can be shared with space for other activities. The only limitation is that the eating area should be located near the place the food is prepared. See 6-20.

Dining space can double as a center for sewing or hobbies. It can be part of a family room or living room, as shown in 6-21. It can also be part of the kitchen. A lowered kitchen counter, 6-22, provides enough space for quick meals and snacks. Large kitchens sometimes have room for a separate table.

If you enjoy being outdoors, you may want to use outside space for eating and relaxation. See 6-23.

An *entry* or *entrance* is a place where guests are identified and greeted. It is here that outer wear is often removed and placed in nearby storage. If a dwelling has more than one entrance, each may have a slightly different purpose. Yet each entrance is probably part of the social area.

All entries help direct the movement of people throughout a dwelling. The front entrance in 6-24 is typical. It leads into either the family room or living room.



LAKWOOD INDUSTRIES, INC.

*6-20 In this dwelling, both the snack bar and the separate dining room are near the food preparation area.*



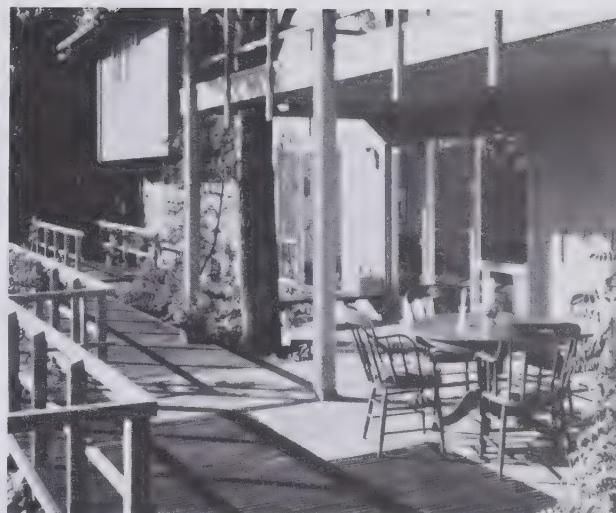
*6-21 This multipurpose room serves as a dining-living area.*

KIT MANUFACTURING CO.



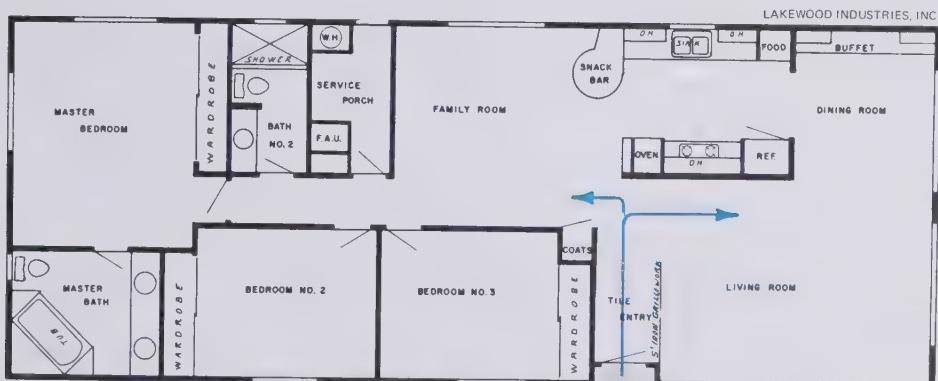
CHAMPION HOME BUILDERS CO.

**6-22** This small eating area is great for informal meals. A larger dining table is located in another room.



WESTERN WOOD PRODUCTS ASSOC

**6-23** Outside eating areas appeal to those who enjoy the outdoors.



**6-24** The main entrance provides space for greeting visitors. It also begins the movement of traffic through a dwelling.



## **Ways of separating areas and rooms**

You have just read about the three main areas within a home: quiet, work and social. These areas can be separated in several ways. A certain area can be located in one end of the dwelling or on a different level. For instance, the quiet area may be upstairs while the social and work areas are on the ground floor.

Hallways are another way of separating areas in a dwelling. They range from 36 in. (91 cm) to 42 in. (106 cm) wide. A 36 in. (91 cm) width is for very short halls. A 40 in. (101 cm) width is the most common one. A 42 in. (106 cm) width is for very long halls or for halls where wheelchairs are used regularly.

Besides physically separating rooms and areas, hall space also acts as a buffer zone for noises. A hallway between the quiet area and social area makes it possible for some people to rest or sleep while others are entertaining guests, dining or watching television. Hallways near work areas help reduce the amount of noise from appliances and tools that reaches the quiet and social areas.

Individual rooms are usually separated by walls. However, some dwellings have large *open areas*. Within these open areas, some divisions of space can be seen. Alcoves (small recessed sections of a room) and balconies are sometimes used. Screens, free-standing storage units and careful arrangements of furniture are also used to separate space according to function. Look again at 6-21. There is no wall between the dining and living areas of the room, but you can see that the room is designed for two different activities.

An advantage of open areas is that people in the dwelling can be involved with more than one activity. For instance, the kitchen may be open to the family room or living room. This allows the persons preparing meals or washing dishes to be aware of and to take part in other activities.

## **GROUPING FOR PLUMBING**

When you look at a floor plan, you can see how rooms are located in relation to quiet,

work and social areas. You can also see that structural considerations are made when floor plans are designed.

In a well-planned dwelling, all of the plumbing lines are located near each other. This helps to conserve money, water and fuel. Fewer plumbing materials are needed, and hot water is not wasted to heat long pipes. Look at 6-25. Notice that the kitchen, bathrooms and laundry room are all located close to one another.

You do not always have the chance to make decisions about the structure of a dwelling. Decisions about plumbing lines and other structural details have been made by someone else when you rent a dwelling or when you buy a dwelling that is already built. In that case, you must decide if you would be satisfied living there or if you should look for another place to live.

## **TRAFFIC PATTERNS**

Have you ever been in a traffic jam as you were leaving a football game or some other school event? Often the local police make a plan to relieve the congestion.

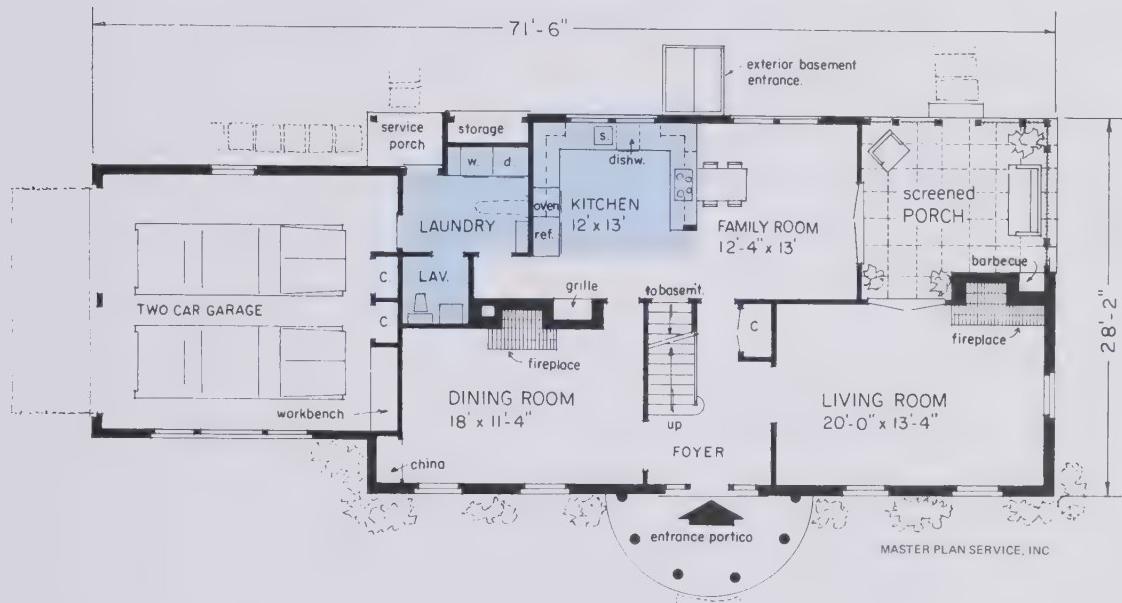
Planning will also help prevent or reduce congestion in the traffic throughout a dwelling. When space is organized well, people can move easily within a room, from room to room or to the outside. The paths they follow are called *traffic patterns*.

Traffic patterns need enough space for persons to move about freely. Yet using more space than is needed is wasteful. As a rule, traffic patterns that are about 40 in. (101 cm) wide are adequate.

People should be able to move throughout a dwelling without disturbing other activities. Major traffic patterns should avoid the quiet area of a dwelling so it can remain quiet. Work areas are unsafe if people frequently walk through them. To avoid accidents, traffic patterns should lead to work areas, but should not go through them. Conversation, study and television viewing are interrupted when traffic patterns are located through social areas.



SECOND FLOOR



FIRST FLOOR

**6-25 This house has well-planned plumbing.**

The upstairs baths are back-to-back.

The kitchen is almost directly below them and close to the laundry room and lavatory.

#### METRIC CONVERSIONS

10 ft. 6 in.	3.20 m
11 ft.	3.35 m
11 ft. 4 in.	3.45 m
12 ft.	3.66 m
12 ft. 4 in.	3.76 m
13 ft.	3.96 m
13 ft. 4 in.	4.06 m
14 ft. 2 in.	4.32 m
18 ft.	5.49 m
20 ft.	6.10 m
28 ft. 2 in.	8.58 m
71 ft. 6 in.	21.79 m

The easiest way to evaluate traffic patterns is to study floor plans. Look at 6-26, 6-27 and 6-28. Do they follow these guidelines for safe and convenient traffic patterns?

- Traffic patterns should be convenient and direct.

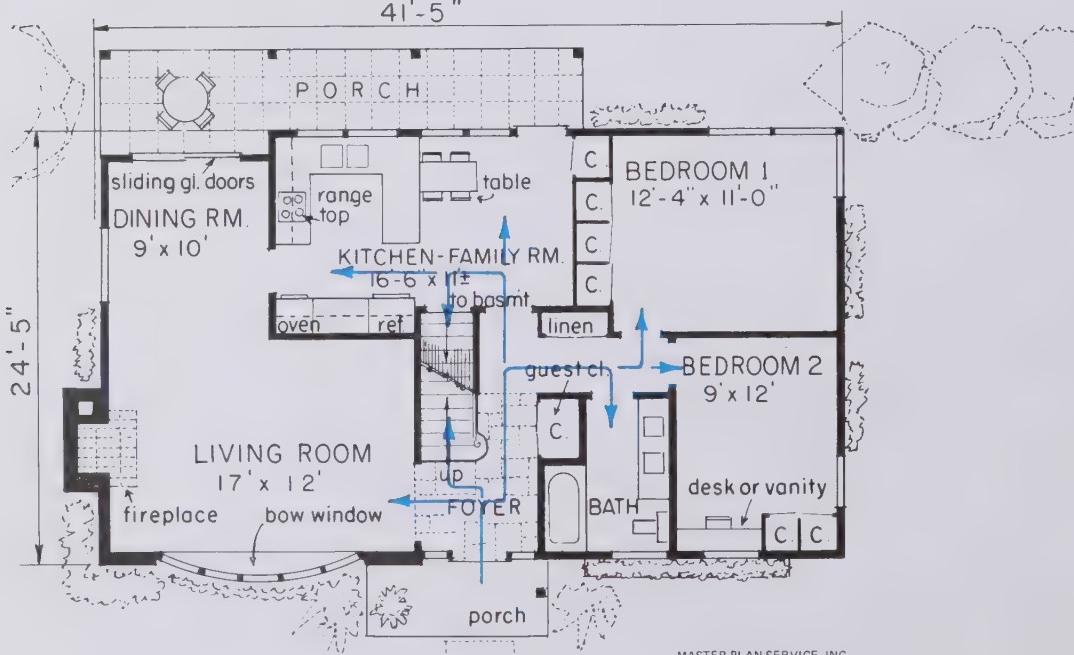
- Have adequate space, but do not waste it.
- Provide easy access from the entrances to other parts of the dwelling.
- Separate traffic patterns to the work area from traffic patterns to the quiet and social areas.

*6-26 The traffic patterns in this dwelling are direct and convenient.*

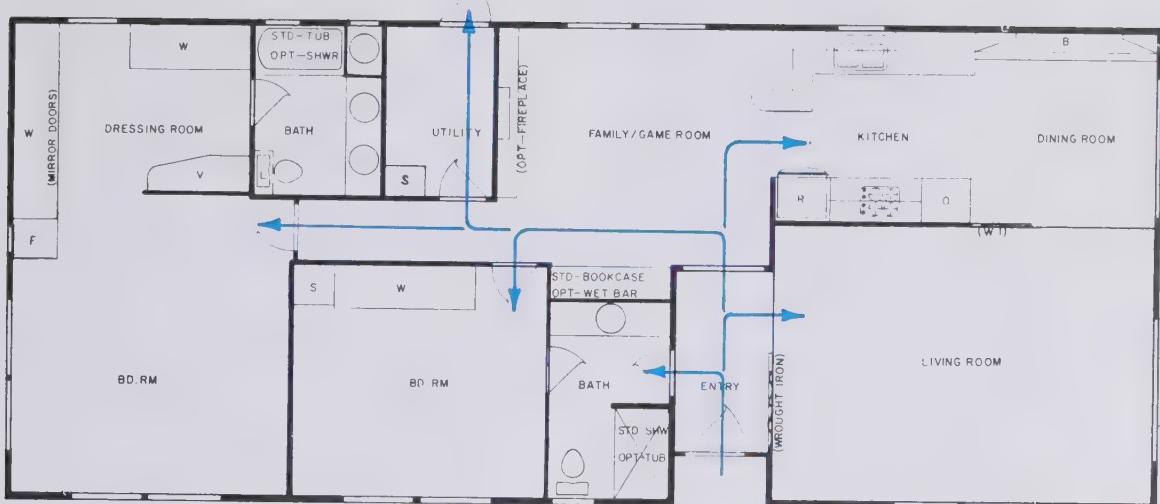


METRIC CONVERSIONS

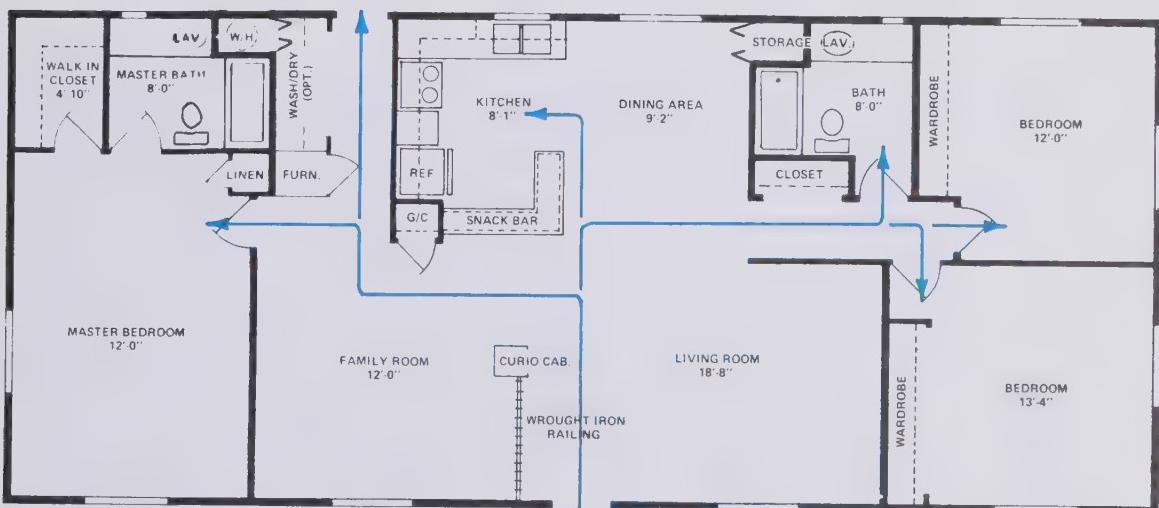
9 ft.	2.74 m
10 ft.	3.05 m
10 ft. 6 in.	3.20 m
11 ft.	3.35 m
11 ft. 8 in.	3.55 m
12 ft.	3.66 m
12 ft. 4 in.	3.76 m
14 ft. 6 in.	4.42 m
16 ft. 6 in.	5.03 m
17 ft.	5.18 m
24 ft. 5 in.	7.45 m
41 ft. 5 in.	12.63 m



MASTER PLAN SERVICE, INC.



6-27 The main entry and a hall help direct traffic in this dwelling.



6-28 Major traffic patterns go through the social area. Entertaining might be difficult in such a dwelling.

#### METRIC CONVERSIONS

4 ft. 10 in.	1.47 m
8 ft.	2.44 m
8 ft. 1 in.	1.50 m
9 ft. 2 in.	2.79 m
12 ft. 0 in.	3.66 m
13 ft. 4 in.	4.06 m
18 ft. 8 in.	5.69 m

- Avoid cutting through the middle of rooms.
- Should not interfere with a good furniture arrangement, nor interrupt activities within a room.
- Should not interfere with privacy in areas of the dwelling where privacy is expected.
- Do not cut through kitchen work area or any other hazardous work area.
- The kitchen should have easy access to all areas of dwelling.
- If dwelling has a service entrance, direct access to a clean-up area is desirable.
- Have access from service entrance to quiet area without going through social area.
- Provide direct access from utility area to outside service zone.

### Space for doors

Outside doors and those between rooms help determine the flow of traffic. Other doors within a room may conceal storage. It is important that the space around them remain free. Blocked doors will stop traffic and cut off access to items that are stored.

Not only should the space immediately in front of doors be free, but there must be space for them to swing and stand open. In addition, people need room to go through the

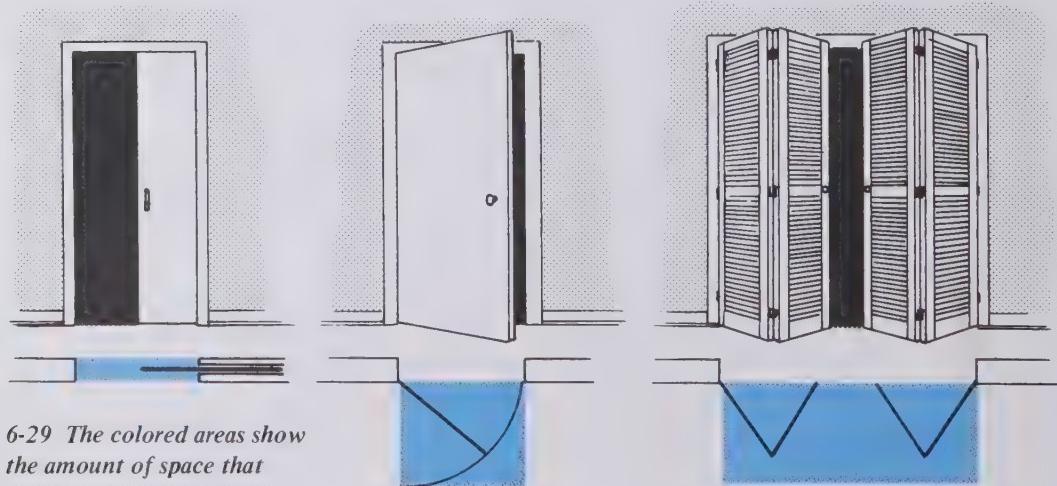
doors or to get what they need from storage areas. In 6-29 and 6-30, you can gather an idea of the amount of space that is needed.

### SURVEY THE STORAGE SPACE

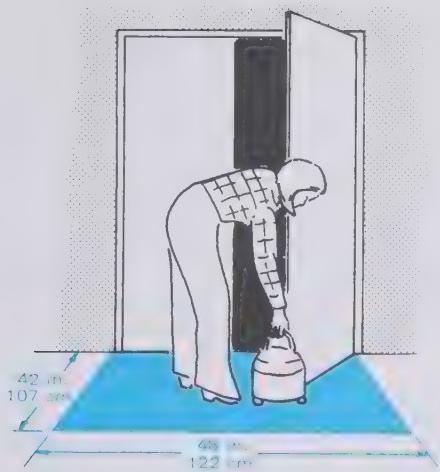
Well-planned dwellings have plenty of storage space that is scattered throughout all areas of the dwelling: quiet, work and social.

You may be renting a place to live, or you may be buying a dwelling that is already built. In either case, you will need to survey the available storage space. Is there enough space to store all your things? Is the storage located in convenient places? If you plan to use some of the rooms for more than one activity, do they have the kind of storage space you need? For instance, suppose you plan to use the dining room as both a study area and a place to eat. You would need space to store paper, pens and reference books as well as dishes and table linens.

If you spend a lot of time on hobbies, you may want extra space to use as a hobby center. The room pictured in 6-31 would be ideal for a person who sews. A gardener would prefer the work area shown in 6-32. How much space would you need to store your hobby supplies?



*6-29 The colored areas show the amount of space that must be kept clear around each type of door.*



**6-30** Extra space is needed around doors to storage areas for the swinging of the door and the removal of the stored items.



TILE COUNCIL OF AMERICA

**6-32** An attractive and handy hobby center makes working with plants even more fun.



**6-31** A separate room for sewing is not a necessity, but it is a convenience for persons who sew most of their clothes.

WINDOW SHADE MFG. ASSOC.

Floor plans, 6-33, help you evaluate the storage space of a dwelling. They show the location of *built-in storage* units as those shown in 6-34 and 6-35. (However, they do not show the number of shelves and drawers.) Floor plans also show how much floor space is available for additional storage such as shelves and bookcases.

### Planning new storage

If you are making plans to build a house or to have one built for you, you will want to plan for storage. First, you must determine the storage needs of each member of your living unit. You will also want to plan *common-use storage*. This is storage used by all who live in a dwelling. Common-use storage includes the storage near the entrance where outdoor clothing is kept. It also includes storage for food, tools and other items that are shared.

*Storage furniture* can add a great deal to the available storage space of a dwelling. Desks, chests and dressers are popular pieces.

Another type of storage furniture is shown in 6-36. If you have such furniture, you can get by with less built-in storage.

If you had a choice of putting built-in storage in a dwelling or using storage furniture, which would you choose? Both types of storage have some advantages. If you are typical, you will move at least 14 times during your lifetime. You could not take built-in storage, 6-37, with you, so you would not have the cost of moving it. Also, your dwelling would increase in value if you included built-in storage. On the other hand, storage furniture can be handy and attractive. If you like pieces of storage furniture, you can take them with you to any dwelling.

### EXTENDING SPACE

Many people want larger homes than they have. Even if they cannot add rooms to the dwelling, they can make their home look and feel more spacious. This may be due to an extension to the outside such as a patio. In



6-33 This floor plan shows the location of a pantry, kitchen cabinets and closets. These are types of built-in storage.



6-34 Upper and lower cabinets are standard built-in storage in kitchens.

UNITED CABINET CORP.



6-36 These couches are a type of storage furniture. They offer storage space as well as seating space.

AZROCK FLOOR PRODUCTS



6-35 Although floor plans show the location of built-in storage, they do not indicate the number of shelves or drawers.



6-37 Built-in storage is a permanent part of a dwelling. It cannot be sold, replaced or moved like pieces of furniture.

NUTONE DIV. OF SCOVILL

other cases, it may be because of the illusion of a larger size. (An illusion is something that is misleading.)

Carpeted outdoor areas and screened porches, 6-38, are extensions of living space. Terraces, patios, decks and balconies are also used to extend inside space to the outdoors, 6-39. They are commonly used as extensions of the social area, but they are sometimes added to the quiet area or work area. In fact, some dwellings completely surround a terrace or court.

Patios, decks and other extensions are often connected to the inside space by the use of glass, 6-40. Large windows and glass doors seem to bring the outdoors inside. Indoor gardens give the same effect although the technique is the reverse of extending rooms to the outside.

#### Illusion of size

The illusion of size can be created by extension and repetition. Look at the two dwellings in 6-41. In each, certain features give the illusion that the houses are larger

than they really are.

In the upper dwelling, an attached garage and an enclosed patio make the house appear longer. The wide overhang of the roof at the sides of the house also adds to the visual length.

The other house has an attached garage too. In addition, it has a porch which is an extension of the main section of the house. The brickwork along the front of the house carries your eyes from one end of the house to the other, giving an illusion of length. The repetition of vertical lines in the siding, chimney, windows and porch pillars also creates eye movement and a feeling of vastness.

**Inside space.** Illusions of size and space are also used inside dwellings. For instance, mirrors can make a room look larger, 6-42. This is because the space is "repeated" in the reflection. Mirrored tiles can be used on all or part of a wall. If an entire wall is covered with mirrors, the room will look twice its actual size.

Color can affect the spaciousness of a room or dwelling. Light, neutral colors make



6-38 The screened porch extends the living space of this small house.

MARLETTE



6-39 Although this space is outside the dwelling, it is used as living space.

CALIFORNIA REDWOOD ASSOC.



6-40 Large amounts of glass help combine indoor and outdoor living space.

NORTHERN HOMES, INC

a room look larger. Dark colors "move" walls closer together, making a room seem smaller. If you want a small space to look larger, paint the walls or the entire room the same light color. You might try a light beige or white.

### Space through lighting

Another method of making a dwelling seem more spacious is to use lighting. Light makes rooms seem larger. Both sunlight and artificial light can be used, 6-43. Good artificial light is especially important in rooms without windows such as some dens, kitchens, bathrooms and basements.

If a dwelling has an extension to the outdoors, 6-44, artificial lighting can be used to extend the inside space in hours of darkness.

Light and color are closely related. Without light, you cannot see any colors. With dim lights, even a large, light-colored room may seem small. With a great deal of light, a small and dark room may seem larger. To make a small area look as large as possible, combine good lighting with light colors and mirrors. See 6-45.



6-41 *Roof extensions and repetition of lines are included in the designs of these homes to give them the illusion of greater size.*

PPG INDUSTRIES



6-42 *A mirrored wall makes this room seem larger.*





*6-43 Artificial light is combined with natural light to make this kitchen area bright and airy.*

ROHM & HAAS CO.



*6-44 By using outdoor lights, living space can be extended to the outdoors anytime.*

GENERAL ELECTRIC LAMP BUSINESS DIV.



*6-45 Mirrors, adequate lighting and light colors are used together to make this room seem more spacious.*

GENERAL ELECTRIC LAMP BUSINESS DIV.

# *to* Know

blueprint . . . built-in storage . . . common-use storage . . . entry . . . extending space . . . floor plan . . . illusions of size and space . . . multipurpose room . . . open areas . . . quiet area . . . scaled drawing . . . social area . . . storage furniture . . . traffic patterns . . . work area . . . work triangle

5. Explain two functions of hallways.

6. List five guidelines for good traffic patterns.

7. Name one advantage of built-in storage and one advantage of storage furniture.

8. Give two examples of how living space can be extended.

9. Describe three methods of creating the illusion of spaciousness inside a dwelling.

2. Draw a room to scale, using graph paper.

3. Using a number of floor plans, do each of the following:

a. Shade the quiet area, social area and work area with different colors. Tell whether or not the division is as it should be. Justify your answer.

b. Show the traffic patterns. Check them with the guidelines listed in this chapter. Tell if they are safe and convenient.

c. Tell which storage is for individual use and which is for common use.

d. If living space has been extended, indicate how it has been done.

4. Find or draw pictures to show one or more of the following:

a. Multipurpose rooms.

b. Ways to extend inside living space.

c. Ways to create the illusion of spaciousness.

d. Ideas for increasing storage space.

# *to* Review

Write your answers on a separate sheet of paper.

1. A \_\_\_\_\_ shows the location of all the rooms in a dwelling.
2. Which of the following would NOT be found in a blueprint?
  - a. Dimensions for the garage.
  - b. Location of built-in storage.
  - c. Location of furniture in a room.
  - d. Room sizes and locations.
3. The space in a dwelling can be divided into three areas according to function. Name the three areas.
4. What is the maximum distance around a work triangle in a well-designed kitchen?

# *to* Do

1. Look at the floor plan shown on page 141. Evaluate it as a dwelling for your living unit by answering the following questions:

- a. Would all members of your living unit have enough space to satisfy their needs?
- b. Are the rooms grouped according to function?
- c. Are quiet areas away from public view and traffic?
- d. Which rooms could be used for more than one purpose?
- e. Are eating areas close to the kitchen?
- f. Is space provided for entertaining as well as for daily living?
- g. Are the entrances located in convenient places?
- h. Are the rooms grouped well for plumbing?
- i. Are the traffic patterns safe and convenient?
- j. Is the built-in storage adequate and convenient?
- k. Is space available for storage furniture?

## Design in the home

*After reading this chapter, you will be able to plan pleasing color harmonies, describe the elements of design, give an example of the use of each design principle and explain the goals of design. You will also be able to describe several treatments for the backgrounds of a dwelling.*

**C**olor is the first thing others notice about your housing. If you understand color, you can use it to make your microenvironment exciting, attractive and satisfying.

Each color has certain psychological effects on people. For instance, red is associated with danger and power. It is bold, aggressive, exciting and warm, 7-1. The color red demands attention. It can make you feel energetic, but too much red in a room can be overpowering.

Orange is less aggressive than red. It is lively, cheerful and warm. See 7-2.

Yellow is friendly, happy and warm. Yellow rooms are light and airy, 7-3.

Green is nature's color. It mixes well with other colors and looks especially good next to white. Green is cool, peaceful and friendly. See 7-4.

Blue is cold, quiet and reserved. It brings thoughts of oceans, sky and ice to mind. It can be soothing and peaceful, 7-5, but too much blue in a room can be depressing.

Violet is a royal color. It works well with most other colors. It is dignified and can be very dramatic. See 7-6.

Black is a sophisticated color. It is severe and dramatic. Small amounts of black in a room help make other colors appear more crisp and clear, 7-7.



7-1 The color red helps create a mood of activity and excitement.

KIRSCH CO.



7-2 Orange rooms look warm and cheerful.

S.E. LEON CO., FLINTKOTE



7-3 Rooms decorated with yellow have a bright and happy atmosphere.

DEL MAR



FULLER - O'BRIEN PAINTS

7-4 Green rooms look friendly and refreshing.



PPG INDUSTRIES

7-6 Violet helps a room look formal and sophisticated.



ELJER PLUMBINGWARE

7-5 A cool, relaxing mood is created by using blue.



KIRSCH CO.

7-7 The small amounts of black and white used in this room help make the other colors look clearer and livelier.

*White* is a fresh, youthful color. It can add sparkle to a room. Like black, small amounts of white make other colors look cleaner and livelier. (Look again at 7-7.) *Off-white* is a popular color for backgrounds. It makes the other colors and the furniture in a room look good.

Persons feel most comfortable when they are surrounded by colors that reflect their personality. For instance, outgoing persons might choose bright red or orange for the main color in a room. Shy persons might feel awkward in a red room. They would probably feel better in a room that was decorated with blue or green.

When making color decisions for a home, the preferences of each member of the living unit should be considered. No single color will satisfy everyone, but the social area of the dwelling should be decorated to make all members feel as comfortable as possible. Individual preferences can be satisfied in the more private rooms of the quiet and work areas.

## THE COLOR WHEEL

The *color wheel*, 7-8, is the basis of all color relationships. Three of the colors on the color wheel — red, yellow and blue — are called *primary colors*. By mixing, lightening and darkening the primary colors, all other colors can be made.

Mixing equal amounts of any two primary colors produces a *secondary color*. Orange, green and violet are secondary colors. Orange is a mixture of red and yellow. Green is a mixture of yellow and blue. Violet is a mixture of red and blue. Look again at the color wheel in 7-8. Notice that the location of each secondary color is between the two primary colors used to make it.

The other colors on the color wheel are called *intermediate* or *tertiary colors*. They are named after the two colors used to make them, with the primary color listed first. Red-orange, yellow-orange, yellow-green, blue-green, blue-violet and red-violet are the intermediate colors.

## Hue

A *hue*, or color name, is the one thing that makes a color unique. It is hue that makes blue different than red, yellow, green, blue-green, blue-violet, etc. If you begin with blue, making that blue lighter, darker, brighter or duller will not change the hue. It will still be blue.

## Value

The *value* of a hue refers to its lightness or darkness. The *normal value* of a hue is the value shown on the color wheel. The normal value of some hues are lighter than the normal value of others. Yellow has the lightest normal value. As you move away from yellow on the color wheel, normal values of hues become darker. Violet has the darkest normal value.

To lighten the value of a hue, white is added. The result is called a *tint*. For instance, pink is a tint of red. It is made by adding white to red. For lighter tints, more white is added. Tints are shown on the inner ring of the color wheel in 7-8.

The value of a hue can also be made darker. This is done by adding varying amounts of black to the hue. The result is called a *shade*. Navy is a shade of blue. Burgundy is a shade of red. Shades are shown on the outer ring of the color wheel in 7-8.

A *value scale* is pictured in 7-9. It shows the full range of values for a hue, from tints to shades.

## Intensity

*Intensity* refers to the brightness or dullness of a hue. The hues on the color wheel are of normal intensity.

Most colors used in a home are of lower intensity. One way to lower the intensity of a color is to add some of its *complement*. The complement of a hue is the hue directly across from it on a color wheel. For instance, blue is the complement of orange. To lower the intensity of orange, varying amounts of blue are added, 7-10.

Another way to lower the intensity of a color is to add some black or white to it.

However, this method changes the value as well as the intensity.

### Neutral colors

Black, white and gray are *neutral colors*. They look good next to other colors. By

adding a neutral color to hue, the value of the hue is changed to either a tint or a shade. Adding a neutral color to a hue also makes the hue less intense. When any of these changes are made, the hue is *neutralized*. Neutralized hues blend more easily with other colors.



7-8 The arrangement of colors in a color wheel provides a basis for all color relationships.

## Warm and cool colors

Some colors seem warm, and others seem cool. See 7-11. The *warm colors* are the “sun colors.” Red is the warmest. The colors that are close to red on the color wheel are also considered warm.

Does your home have some rooms in which you always feel warm? If so, look at the colors used in those rooms. Do they appear on the left-hand side of the color wheel?

Warm colors are called *advancing colors*. Objects that are warm-colored appear nearer to you. Walls that are warm-colored appear closer together. Thus, a room that is painted red or orange appears smaller than it really is.

Warm colors attract your attention. They can make you feel happy, energetic and full of excitement. Many advertisements use warm colors to make you notice them. Restaurants use warm colors to increase your appetite. Locker rooms use them to generate excitement. Homes use them to make members of the living units feel lively and cheerful. However, large amounts of warm colors may make you feel nervous, especially if the colors are of full intensity.

On the opposite side of the color wheel are the *cool colors*. These include blue, green and the colors near them.

Cool colors are called *receding colors*. They make objects seem smaller and walls seem farther away than they are. A room painted light green seems larger than it is.

Cool colors are quiet and restful. They are often used in hospitals to help keep patients calm and relaxed. They are also popular for bedrooms. If cool colors are overused, they can make people feel depressed.

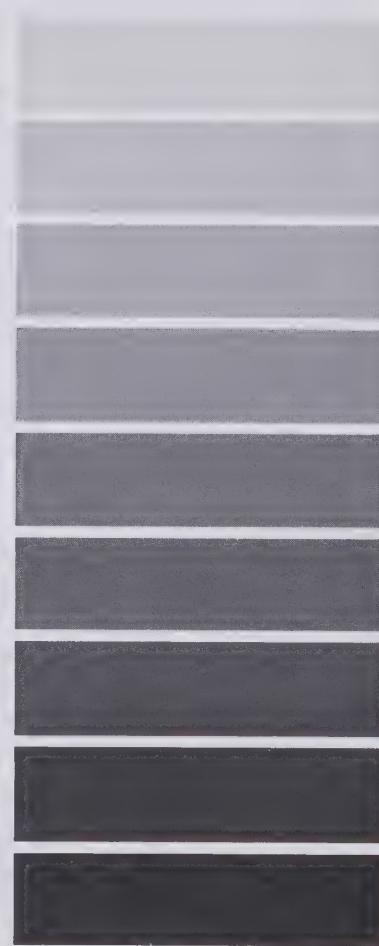
Warm and cool colors are not different in temperature. They just create different atmospheres that make people feel different ways. To illustrate this point, a story is often told about a lunchroom in an office building. The workers in the office complained that the lunchroom was always cold. It was painted light blue. The employer had the room painted orange. The workers quit complaining even though the temperature did not change.

## COLOR HARMONIES

When certain colors are used together in a pleasing manner, they create a *color harmony* or *color scheme*. There are no absolute “rights” or “wrongs” in using colors, but there are some guidelines that can help you. See 7-12. Following one of the standard color harmonies is the surest and easiest way to achieve success with color.

### Monochromatic color harmony

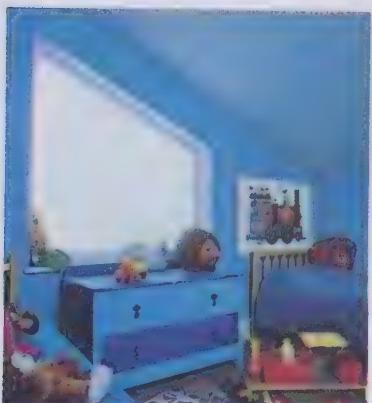
The simplest color harmony is the *monochromatic* one, 7-13. In it, a single hue is



7-9 Values ranging from tints to shades are shown on a value scale.



**7-10** By adding blue to orange, the intensity of the orange is reduced.

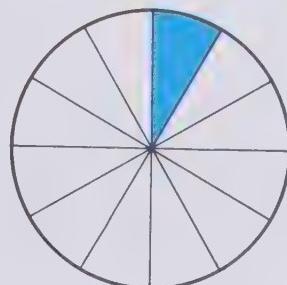


**7-11** Colors related to red give a warmer feeling to a room than colors related to blue.

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1. Use colors that the members of your living unit enjoy.
2. Colors based on blue give coolness to a room.
3. Colors based on red give warmth to a room.
4. Light values, dull intensities and cool hues have receding qualities that make rooms appear larger.
5. Dark values, bright intensities and warm hues have advancing qualities that make rooms appear smaller.
6. Contrasting values draw attention.
  - a. A white sofa against a dark-colored wall will draw more attention than a white sofa against a white wall.
  - b. Too many strong value contrasts in a room may produce a tiring and confusing appearance.
7. Similar values create a restful mood.
8. Light colors soil easily and may require extra cleaning. Dark colors show dust.
9. Intensity of color varies according to the amount that is used. The larger the area of color, the more intense it appears.
10. Large areas look best when covered with colors of low intensity. Bright colors should be used in small amounts.
11. When colors are used side-by-side, the differences between them will be emphasized.
  - a. When light and dark colors are used together, the light ones appear lighter, and the dark ones appear darker.
  - b. When bright and dull colors are used together, the bright ones appear brighter, and the dull ones appear duller.
  - c. When warm and cool colors are used together, the warm ones appear warmer, and the cool ones appear cooler.
12. When complementary colors are used together, they make each other appear brighter.
13. Color harmonies look best when one color dominates.
14. Neutral colors are an important part of any color scheme.
15. Colors change as light changes. Artificial light "softens" colors. Colors that appear attractive under artificial light may not be pleasing in the daylight.
16. Surfaces with rough textures make colors appear darker than surfaces with smooth textures.

**7-12** These guidelines can help you achieve success with color.



**7-13** A monochromatic color harmony uses a single hue.

used. Variation is added by changing the value and intensity of the hue. For example, if you like green, you may use a dark green carpet, medium green upholstery and light green walls. Accents of very intense green, white and black can also add variety.

A monochromatic color harmony in a fabric is shown in 7-14. A room with this type of color harmony is shown in 7-15.

#### Analogous color harmony

An *analogous color harmony*, 7-16, is made by combining related hues. These are hues that are next to each other on the color wheel. Usually, between three and five hues are used. Because they are related, they blend together easily. One color seems to float into another. An example of an analogous color scheme is shown in 7-17.

The result will look best if you choose one color as the main one. Use smaller amounts of the others to add interest and variety. See 7-18. In addition, you may want to use a tiny amount of an unrelated color for an accent.

#### Complementary color harmony

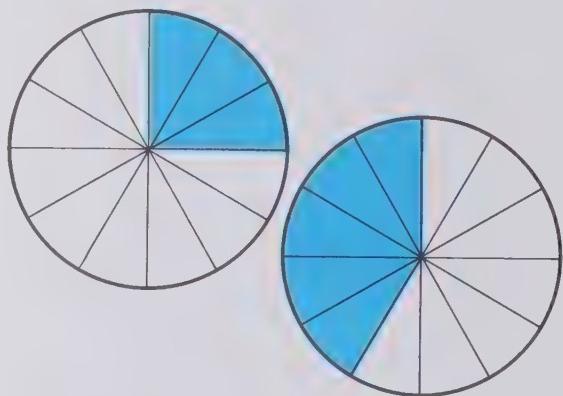
*Complementary color harmonies*, 7-19, are made by combining complementary colors (colors directly across from each other on the color wheel). In 7-20, red and green are used in a complementary color harmony.

Complementary colors make each other look brighter and more intense. When blue is



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7-15 Red is the basis for this monochromatic color harmony.



7-16 An analogous color harmony uses three to five hues that are next to each other on the color wheel.



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7-14 This fabric swatch has a monochromatic color scheme.



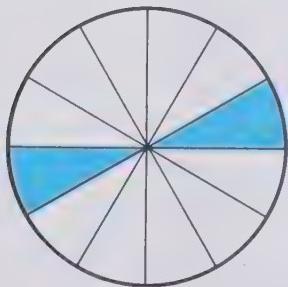
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7-17 This fabric swatch has an analogous color scheme.



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7-18 Blue is the dominant hue in this analogous color harmony. Smaller amounts of green and yellow are used.



7-19 A complementary color scheme uses two opposite colors on the color wheel.



7-20 Red and green, along with their tints and shades, create this complementary color scheme.

next to orange, the blue looks "more blue," and the orange looks "more orange." A complementary color harmony can make a room look bright and dramatic as in 7-21. Although such sharp contrast is fine for some rooms, most rooms look better if the contrast is lessened. To do this, the values and intensities of the colors can be varied. Also, the colors can be used in varied amounts. The more one color is allowed to dominate the

other, the less the contrast is noticed. This idea follows the guideline that one color should dominate in any color harmony.

#### Variations of the complementary color harmony

The complementary color harmony can be altered to create other color schemes. They are all somewhat alike because they all use contrasting colors.

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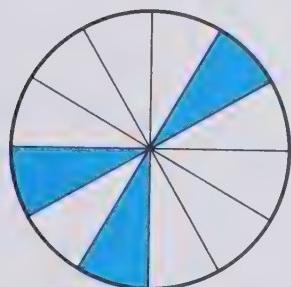
*7-21 A complementary color harmony can look dramatic.*



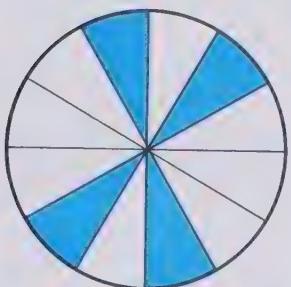
A plan for a *split complementary color harmony* is pictured in 7-22. The first step is to choose one color. Then the two colors on each side of its complement are used with it.

A *double complementary color harmony*, 7-23, is one step further than the split-complementary one. In this case, neither of the two basic complementary colors are used. Instead, the two colors on each side of both of them are used.

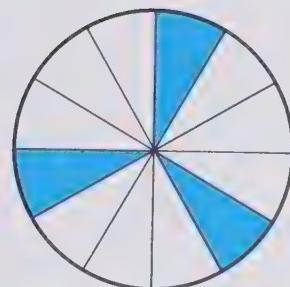
A *triad color harmony*, 7-24, uses three colors that are spaced evenly around the color wheel. The three primary colors form a triad color scheme, 7-25. The three secondary colors can also be used for this type of color scheme. The two other possible color combinations are yellow-orange, red-violet and blue-green; or red-orange, blue-violet and yellow-green.



7-22 Split complementary color harmony.



7-23 Double complementary color harmony.



7-24 Triad color harmony.



7-25 The three primary colors are used to create a bold triad color harmony for this contemporary dwelling.

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## Neutral color harmonies

Although black and white are not hues of the color wheel, they are the basis for some color schemes. Combinations of black, gray and white create *neutral color harmonies*.

Brown is *not* a neutral color. It is a low-intensity shade of orange. But because brown, tan and beige blend well with almost all other colors, they are sometimes *considered* neutral. In 7-26, brown and white are used to create a neutral color scheme. If black had been used instead of dark brown, the room would have had even more contrast and a harsher mood. The orange flowers and green plants are accents. They add a needed spark of variety to the color scheme.

## DESIGN IN HOUSING

*Design* is the result of artistic effort. It is the arrangement of things in a pleasing manner. These things that are arranged are design elements. The guidelines that determine how they are arranged are design principles. The final goals of the arrangement are beauty, appropriateness and unity with variation, 7-27.

### Elements of design

Color, line, form and texture are design elements. You can add them, remove them or change them in a decorating scheme to change the design.

*Color* has already been discussed in this



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7-26 A dramatic look is created by the large contrast in value between the white and dark brown colors in this neutral color scheme.

chapter. It is probably the most important design element. A decision about color is usually the first one made when decorating a room. Color sets the mood for a room and leaves a lasting impression with any visitor.

### Line

Lines give direction to a design. They cause your eyes to move left and right or up and down. The direction of lines creates certain effects in a design. *Vertical lines*, 7-28, add height, strength and dignity. They can be seen in columns or pillars, in tall pieces of furniture and in long, straight folds of draperies.

*Horizontal lines* add stability and restfulness. See 7-29. Long, low roofs, shelves and long pieces of furniture such as sofas and

USE DESIGN ELEMENTS	ACCORDING TO DESIGN PRINCIPLES	TO ACHIEVE DESIGN GOALS
Color Line Form Texture	Proportion Balance Emphasis Rhythm	Beauty Appropriateness Unity with variation

7-27 This chart explains the relationship among the elements, principles and goals of design.

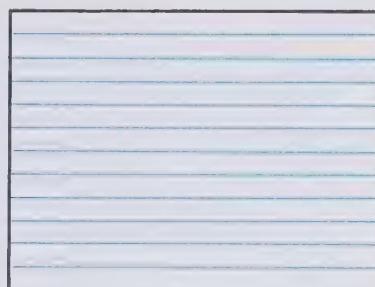


7-28 Vertical lines can add a feeling of height and formality to a room.

chests are sources of these lines.

*Diagonal lines*, 7-30, suggest activity. Too many of them in a room can be tiring. Diagonal lines are seen in gable roofs, slanted ceilings and staircases.

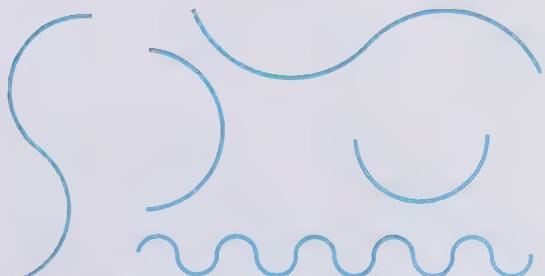
*Curved lines* are pictured in 7-31. They add a graceful, softening effect. They are found in



7-29 Horizontal lines can make a room feel more relaxing and informal.



7-30 Diagonal lines suggest movement and action.



7-31 Curved lines add softness and grace to a room.

doorway arches, ruffled curtains and furniture with curved edges.

You have learned that one color should dominate a design. Others can be added for variety and interest. The same guideline applies to other design elements. One type of line should dominate a design. Others can be added for interest. In 7-32, you can see how lines are used in the exterior of a dwelling. The horizontal lines are dominant. They are found in the long, low roofs; the row of small windows; the window box full of flowers; the siding; and the pattern of the brick. For variation, vertical lines can be seen in the columns and the tall windows next to the front doors. Diagonal lines are seen in the gable roofs. Curved lines appear in the sidewalk, door handles and irregular edges of the flowers and shrubs.

Another example of line in a dwelling exterior is shown in 7-33. Curved lines dominate the design. Can you find smaller amounts of horizontal, vertical and diagonal lines?

Design is important within a room too. In 7-34, you see a room in which vertical lines dominate. They are found in the wallpaper, the large blue panel and the storage cabinets at the left. Diagonal lines can be seen in the slanting ceiling, the hanging lamps, the pillows on the loft and the triangle in the blue panel. Horizontal lines are found along the loft, the bed and the shelves. The circles in the blue panel, the mirror and the picture above the shelves are sources of curved lines.

Horizontal lines dominate the room shown in 7-35. They are found in the long row of short curtains, the commode (chest) and the subtle stripes of the carpet. The fireplace is another source of horizontal lines because of its brick pattern, mantleshelf and hearth. Can you find smaller amounts of vertical, diagonal and curved lines?

**Form.** Any object that has height, width and depth has form. The form of an object should fit its function. Consider some different forms of chairs. Dining room chairs have a



7-32 Horizontal lines dominate this dwelling's exterior design.

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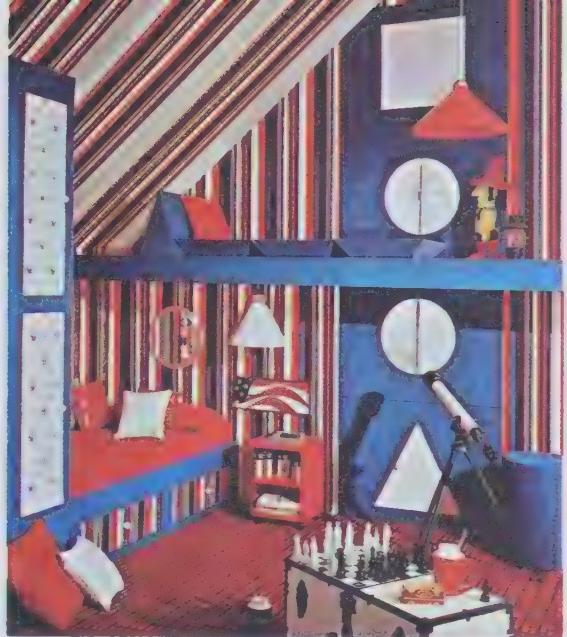


7-33 The street view of this house is dominated by curved lines.

form that allows persons to sit close to a table. Chairs for a family room have a form that allows persons to sit comfortably and relax while talking, reading or watching television. The form of lounge chairs allows persons to stretch their legs while remaining in a sitting position.

Imagine a chair with a seat that slanted to one side. Imagine one with very short legs or very tall legs. Imagine one so frail that it could not support an average person. These forms would not be suited to the function of chairs.

Forms within a room should be related. Some pieces of furniture have the form of cubes or rectangular prisms. Look at the room in 7-36. It is dominated by "boxy" forms which look good together. A table with a different form, 7-37, would look out of place in this room.



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*7-34 The vertical lines of the wallpaper are the dominant element of design in this room.*



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*7-35 The horizontal lines in this room add to its restful mood.*

**Texture.** Texture refers to the way the surface of something feels — or the way you expect it to feel. Texture appeals as much to the sense of sight as it does to the sense of touch. What do you see in your mind when you hear descriptions such as lustrous, shiny or dull?

Rigid, crisp, harsh, flexible and limp describe the hardness and softness of texture. Terms that describe the roughness or smoothness of texture are nubby, crinkled, fuzzy, quilted, ribbed, uneven and even.

Texture affects color. Rough textures cast tiny shadows on the surface of an object that make the color look darker. Smooth, shiny textures make colors look lighter than rough ones.

Texture adds interest to a room. Look at 7-38. Smooth, shiny textures dominate. The walls, ceiling, draperies, tables and lamps are smooth. The chair's vinyl upholstery and chrome legs are smooth and shiny. For variation, rough textures can be found in the carpet, plants and sofa pillow.

The room in 7-39 has a different kind of texture. Although the walls would *feel* smooth, the pattern in the wallpaper gives the room a great deal of "rough" visual texture. The old wooden clock and plaques as well as the dried weeds add to the dominating rough textures. The bright blue paint on the chair, the statue of a cat, the sparkling blue glass jar and the smooth blue and white ceramic dishes are used for contrast.

### Principles of design

When you understand the principles of design, you can use the elements of design successfully. Then you can achieve the goals of beauty, appropriateness and unity with variation. The principles of design are proportion, balance, emphasis and rhythm.

**Proportion.** Proportion is the ratio of one part to another part or to the whole. It involves the shape, size and visual weight of an object.

Unequal amounts are more pleasing to the eye than equal amounts. Thus, a rectangle has more pleasing proportions than a square.

Ratios such as 2:3, 3:5 and 5:8 are better than 2:2 or 2:4. This guideline applies to rooms, furniture and accessories. See 7-40, 7-41 and 7-42.

Visual weight is another factor in proportion. Look at the two chairs in 7-43. Both have the same dimensions. Yet one looks larger and heavier than the other. Thick lines, bold colors, coarse textures and large patterns all add to visual weight.

If you were decorating a small room, you would choose furniture that was light in visual weight. This would prevent the furniture from making the room look crowded. Likewise, you would choose accessories that were in



7-36 The forms of the furniture in this room are similar. Each piece looks like it belongs in the room.

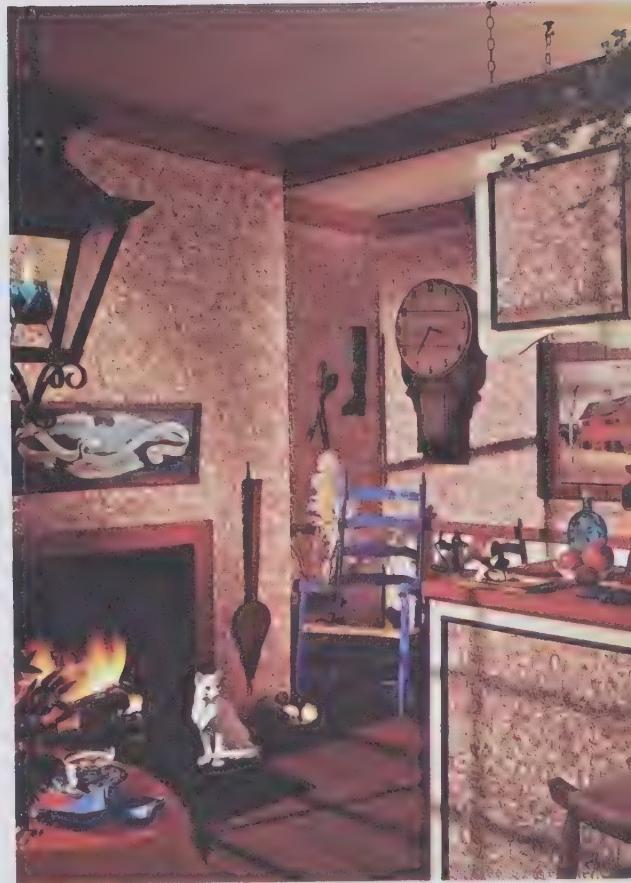
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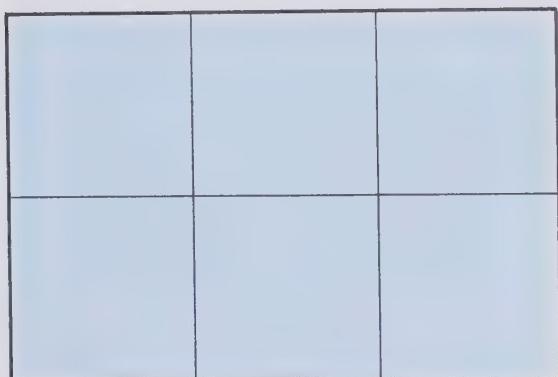
7-37 The form of this table fits its function, but it would not be harmonious with the forms of the furniture in the room shown in 7-36.



7-38 Smooth textures dominate this room. A few rough textures are added for variation.



7-39 This room is full of visual texture. Few things look smooth and even.



7-40 Rectangles with a proportion of two parts to three are pleasing to the eye.

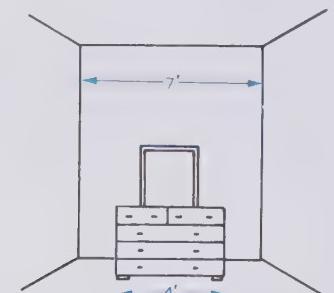
proportion to the furniture. In a small room, it is wise to think small in everything from sofas to ashtrays.

The room shown in 7-44 is a good example of proportion. The room is large, so large objects are used. The couch, tables, lamps, lampshades and picture are in proportion to each other. Everything seems to "fit."

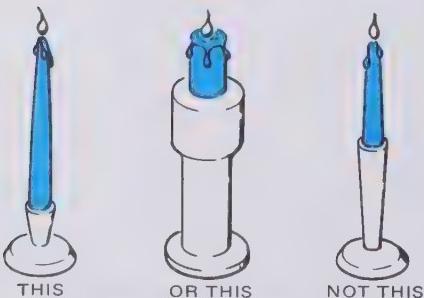
**Balance.** Balance gives a design a feeling of equilibrium. Balance can be either formal or informal.

*Formal balance* is pictured in 7-45. If you draw an imaginary vertical line through the front door, one side of the house is the mirror image of the other. The same thing can be seen in a room, 7-46.

*Informal balance* is pictured in 7-47. The two ends of the house are not alike, but neither side overpowers the other. The room in 7-48 also illustrates informal balance. The sofa and end table on one side are balanced by the bright red chair, small table and



7-41 A 4 ft. (1.2 m) chest looks good on a 7 ft. (2.1 m) wall.



7-42 Candles should be either taller or shorter than their holders.

wooden chair on the other side. The boldness of the red fabric makes the chair "heavy" enough for the arrangement to work.

Look again at 7-46. Although formal balance dominates, informal balance is seen in



7-43 Although these two chairs are the same size, one looks larger because of visual weight.



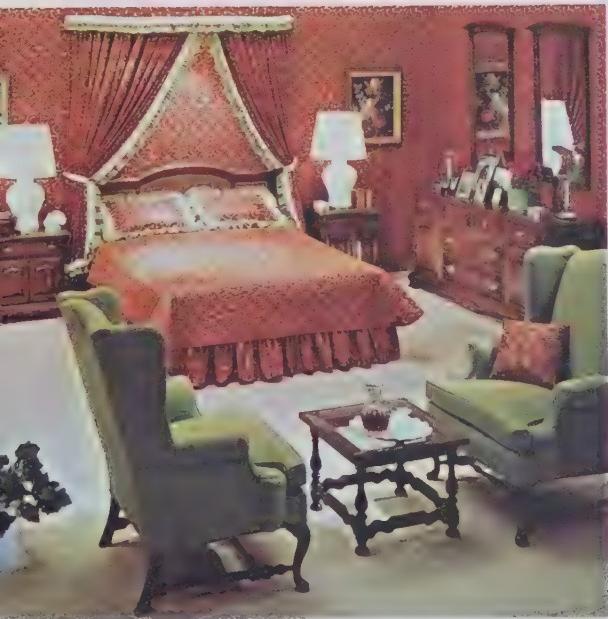
7-44 This room has good proportion. Nothing looks too big or too small.

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*7-45 This house has formal balance.  
Both ends are similar.*



*7-46 Formal balance creates a mood of stability and repose.*

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*7-47 Informal balance cannot be defined in exact terms. Both sides of a design have to "feel" equal.*

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the arrangement of accessories on the dresser. And although informal balance dominates the room in 7-48, formal balance is seen in the arrangement above the fireplace. Variety is pleasing to the eye as long as one principle dominates.

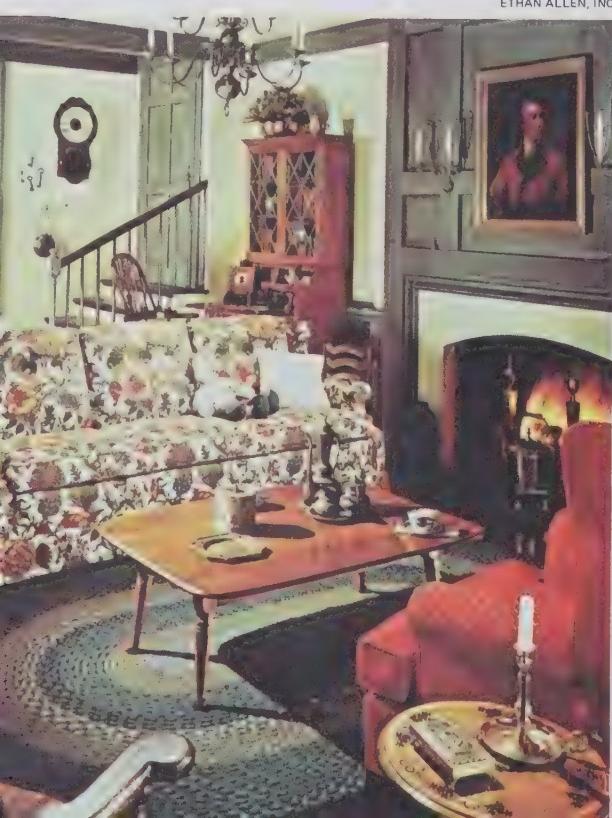
**Emphasis.** Emphasis creates a center of interest in a design. It is the feature that is seen first and that repeatedly draws attention. Common points of emphasis in rooms are fireplaces, pleasant outdoor views, colorful rugs and striking works of art, 7-49.

The point of emphasis gives order and direction to a room. Everything else in the room should relate to it through color, type of line, texture or proportion.

**Rhythm.** Rhythm leads the eye from one area to another with smooth movement. This can be achieved by radiation, repetition, opposition, gradation or transition. See 7-50.

In rhythm by *radiation*, lines flow out from a central point. This is usually found in

7-48 The furniture in this room is arranged with informal balance.



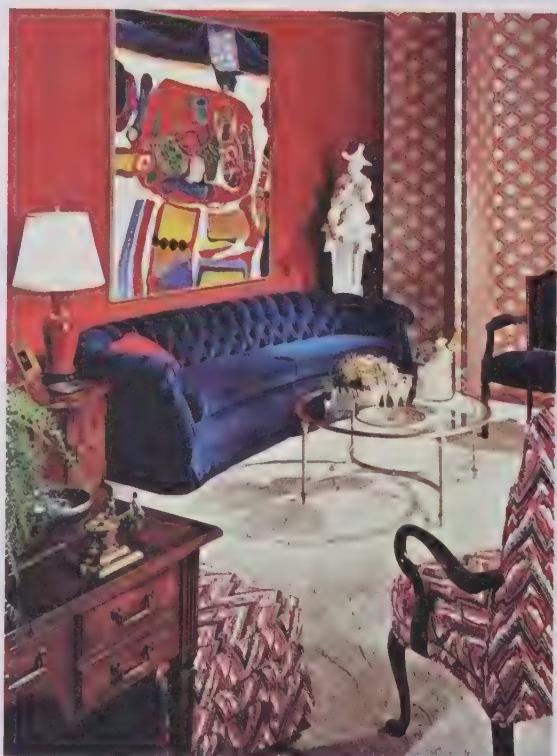
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accessories. The light fixture and flower arrangement in 7-51 are examples of this kind of rhythm.

Rhythm by *repetition* is created when a design element is repeated. Color, line, form and texture are all repeated in the room shown in 7-51. It is the dominant type of rhythm in the room.

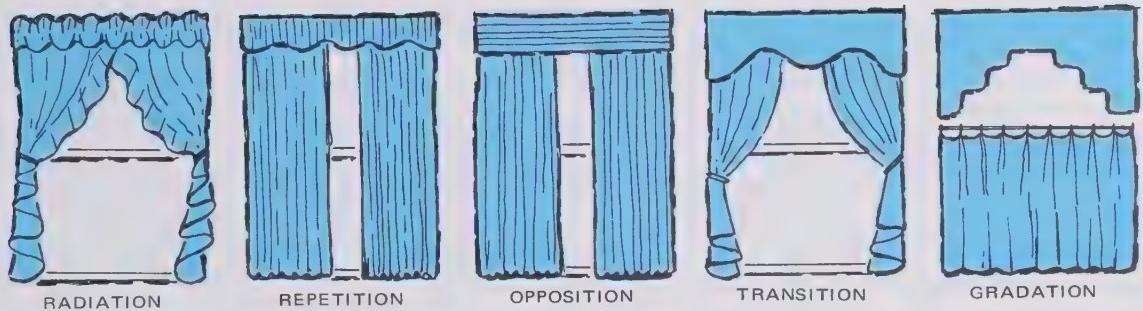
In rhythm by *opposition*, lines meet to form right angles. Opposition in 7-51 is found in the corners of the windowpanes, picture frames, fireplace and rug.

**Gradation** is the type of rhythm created by a gradual change in color value from dark to light. It can also be created by a regular change from smaller to larger parts that all



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7-49 The large graphic is the point of emphasis in this room. Notice how the other furnishings are related to it.



7-50 Rhythm can be achieved in several different ways.



7-51 All five kinds of rhythm can be seen in this room.

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have the same shape. The light fixture in 7-51 shows rhythm by gradation since the bottom row of lights is similar, but larger, than the top row.

Curved lines are sources of rhythm by *transition* when they carry the eye over an architectural feature or piece of furniture. The drapery swags in 7-51 carry the eye around the corners of the windows.

### Goals of design

The goals of design are beauty, appropriateness and unity with variation.

*Beauty* cannot be defined. Each person has a unique concept of beauty. However, the elements and principles of design have been developed as a result of studying what most people see as being beautiful. If design elements are arranged according to design principles, the result will appear beautiful to most people.

*Appropriateness* or suitability has many meanings. Furnishings should be appropriate for the dwelling as a whole. (A vacation cabin does not need formal dining furniture.) Furnishings should be appropriate for each room. (A refrigerator is not appropriate in a living room.) The form of any furnishing should be appropriate for its function. Above all, your home should be appropriate for your personality, life-style, needs and values.

*Unity with variation* has been mentioned several times. In any design with unity, one color dominates. One type of line dominates. One type of form dominates. One texture dominates. The proportion is mostly large or mostly small. Balance is mostly formal or mostly informal. One point of emphasis is needed. One type of rhythm dominates. All of these guidelines are stated to assure unity or harmony in the design. With unity, the overall appearance of a room is pleasing. Without unity, a room can be a confusing combination of parts.

On the other hand, too many limitations on design elements and principles can result in a boring, lifeless room. Some variety is needed. Therefore, the goal is "mostly unity with some variation."

## BACKGROUNDS

Floors, walls and ceilings are important parts of a room. They serve as backgrounds for everything else. The way they are used helps to determine the total look of the room. They can help show off the furnishings in the best way. They can also help create the desired mood.

### Floors

A floor is usually the first background to be planned. It underscores the entire room and helps tie the many parts of a room together.

In some dwellings, floor treatments are chosen separately for each area. In others, a single treatment such as carpeting is used throughout.

The main types of floor treatments are resilient, nonresilient, wood and carpet. Before choosing one, you should consider its beauty, comfort, durability, maintenance and cost.

**Resilient floor treatments.** Resilient surfaces are those which have some "give" but retain their original shape. They are non-absorbent, durable, easy to maintain and fairly inexpensive. They provide some walking comfort and noise control.

Asphalt tile, vinyl, vinyl-asbestos tile and cork tile are types of resilient floor treatments. They are available in a wide range of colors and patterns and can be used in any decorating scheme.

**Asphalt tile** is the least costly type of tile. It is not affected by moisture, so it can be used in places where moisture is a problem such as basement floors. It is durable, but dents and stains can be problems.

**Vinyl floor coverings**, 7-52, can offer any color, pattern or texture desired. They are very resistant to wear and to stains, but abrasion can damage the surface. They are available in either tile or sheet form. Vinyl tile is the most costly kind of tile, but it is the easiest to maintain. Little or no waxing is needed. Some sheet vinyl is made with a layer of vinyl foam behind it. The result is a floor

with good walking comfort and good sound absorption.

*Vinyl asbestos tile* is durable, stain resistant and fairly inexpensive. See 7-53. It can be used in any room. The vinyl coating makes maintenance easy. It is harder and noisier than vinyl tile.

*Cork tile* has a beautiful, rich appearance. It is great for foot comfort and sound control. But it wears rapidly and dents easily. It is difficult to maintain and is damaged by grease

stains. When covered with a coating of vinyl, it is water resistant, more durable and easier to maintain.

**Nonresilient floor treatments.** Nonresilient floor treatments are extremely durable and attractive. However, they offer little foot comfort, noise control or warmth. They are difficult to install and costly.

Ceramic tile, clay tile, concrete tile, terrazzo, stone and brick are types of nonresilient floor treatments.



CONGOLEUM

7-52 This vinyl floor covering is beautiful and easy to keep clean.



AZROCK FLOOR PRODUCTS

7-53 Vinyl asbestos floor tile is stain resistant and durable.

*Ceramic tile*, 7-54, is a hard, durable covering for both floors and walls. Its glaze is water and stain resistant, so it is easy to maintain. Ceramic tile is used most often for entries and bathrooms, but the wide range of sizes, colors and patterns makes it appropriate for any room.

*Clay or quarry tile*, like ceramic tile, is very strong and durable. It resists grease, chemicals and changes in temperature. Colors are limited to its natural range of golds, reds, browns, grays and blacks. The shapes and textures vary. It can be glazed or unglazed. When needed, glazed clay tile should be washed with warm water and soap. Unglazed tile may need to be waxed.

*Concrete* with a smooth surface can be used as a finished floor. Color may be added to it as a powder before it dries or by using a special floor paint. This type of floor is extremely sturdy and durable. It is used for some entries, basements, patios and garages. Indoor floors need a heavy coat of wax for maintenance.

*Terrazzo* is made of a mixture of cement, mortar and marble chips. It is ground and polished to a smooth finish. It comes in a limited range of colors. Terrazzo floors are easy to maintain because they are hard, durable and very resistant to moisture. They are used in areas with heavy traffic such as entries and halls.

*Stone* floors are beautiful and durable, but costly. Stones vary in size and quality. They may be laid in natural shapes or cut into regular ones. Colors are limited to natural grays and browns. Stone floors are fairly easy to maintain. A vinyl coating protects them from grease stains. They are used in areas of heavy traffic, some dining rooms, and patios. They can look either formal or informal.

*Brick* floors, like stone ones, are beautiful, durable and costly. Bricks come in many sizes, colors and textures. See 7-55. The care of brick floors is similar to that of stone floors. A vinyl coating protects them from stains. The floors should be dusted regularly and washed occasionally. They look best in informal settings.

**Wood floor treatments.** Wood has always been a popular floor treatment. It looks good with any style of furniture. It offers beauty and warmth to a room. It has some resilience, yet it is durable and resists dents. The cost is moderate.

Oak, maple, beech, birch, hickory, mahogany, cherry and teak are used for *hardwood* floors. Oak is the most common because of its beauty, warmth and durability. Maple floors are also common. They are smooth, strong and hard.

Southern yellow pine, Douglas fir, western hemlock and larch are the common *softwoods* used for floors. Redwood, cedar, cypress and eastern white pine are used where they are readily available.

Wood floors are laid in several ways. The most common method is to nail down thin strips of wood which are tongue and grooved to keep them close together. Decorative patterns such as random plank, 7-56, and parquetry, 7-57, add interest to a wood floor.

Today, wood finishes of plastic and vinyl make the task of maintaining wood floors

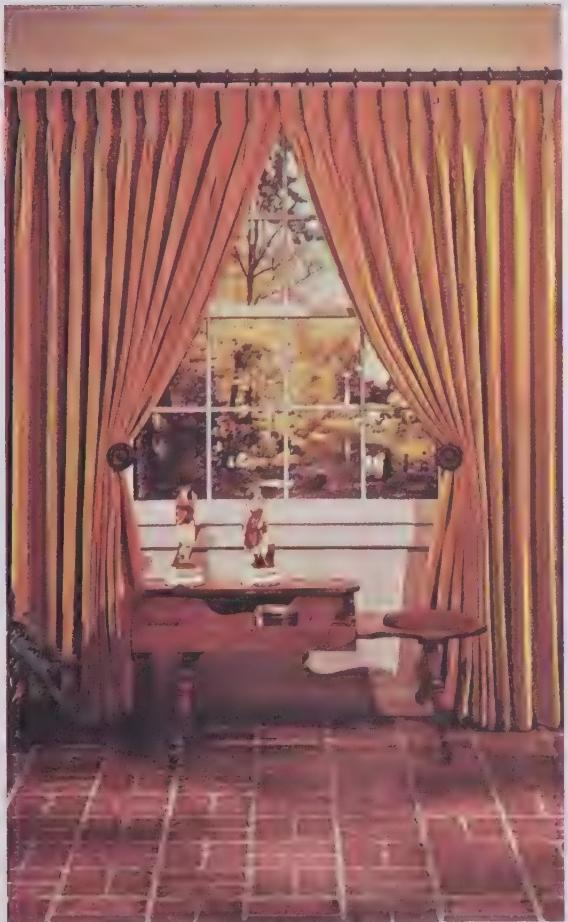


TILE COUNCIL OF AMERICA

7-54 Ceramic tile is used for the walls and floor of this unusual room.

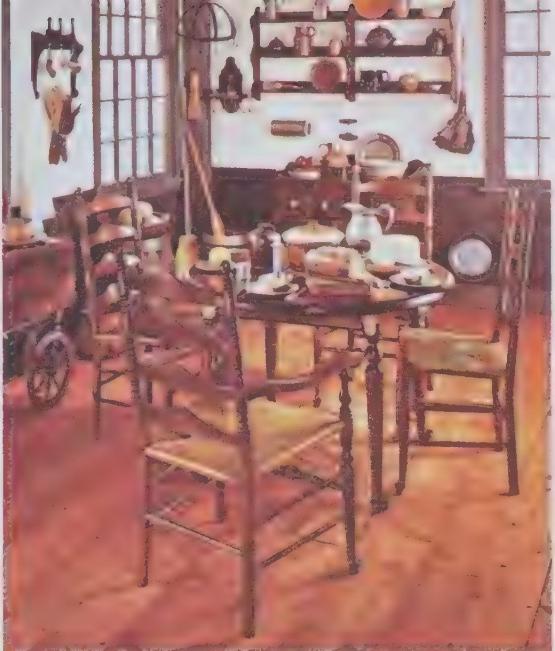
easy. They protect the wood from moisture, stains and wear.

**Carpets and rugs.** Carpets and rugs are among the most popular floor treatments of today. They have many advantages. They make a room feel warmer. They provide sound control and walking comfort. They add color and texture to a room. They serve as an attractive foundation for other furnishings. With a good vacuum, maintenance of carpets and rugs is usually easy.



7-55 Brick floors are beautiful and durable. Their rough texture adds interest to any informal setting.

KIRSCH CO.



ETHAN ALLEN, INC.

7-56 Various widths and lengths of wood are used for random plank floors. They look great in informal settings.



7-57 Parquet wood floors are often assembled in factories for easier installation.

BRUCE FLOORING

*Wall-to-wall carpeting*, 7-58, covers an entire floor. It makes a room appear larger and more luxurious. It can hide a poor floor. A disadvantage is that it cannot be moved, so some parts show wear before other parts.

A *room-size rug* exposes a small border of floor. It can show off a beautiful wood floor while keeping the warmth and comfort of the rug. See 7-59. Room-size rugs can be turned for more even wear. However, maintenance is a disadvantage. Separate cleaning processes are needed for the rug and exposed floor.

*Area rugs* vary in size, but they do not cover the entire floor. They are used to define areas of a room. For instance, in the dual-purpose room shown in 7-60, an area rug helps divide the space according to function. Area rugs are versatile. They can add interest to a room and can even serve as the point of emphasis. They can be moved from one furniture grouping to another for a new look. They can be used in almost any room in any dwelling.

Two factors that affect the quality of rugs and carpets are *density* and *fiber content*. Density refers to the number of tufts or yarns per square inch or square centimetre. Carpets with a high density look better and are more durable.

Wool, nylon, acrylic, rayon, olefin and cotton are the major fibers used for carpets and rugs. Wool is the ideal fiber for carpet. It is very resilient. (It regains its shape after you step on it.) It is beautiful and durable, and it resists soil and stains. However, wool is expensive.

Nylon is the most-used fiber for carpets today. It is very durable. It has very good resilience and resistance to soil. (But oily stains are difficult to remove.) It is less costly than wool.

Acrylic looks much like wool. It has good resilience, durability and resistance to soil. (But oily stains are difficult to remove.) It costs less than wool, but more than nylon.

Rayon rugs are attractive, but not very practical. They are low in resilience, durability and resistance to soil. However, they are low in price. Therefore, they are used where

quality is not a major factor. Scatter rugs and inexpensive room-size rugs are often made of rayon.

Cotton rugs are attractive and durable, but low in resilience and resistance to soil. Prices vary according to the type of cotton, but they are usually fairly low. Cotton is used mostly for washable scatter rugs.

Many kitchen, bathroom and outdoor carpets are made of olefin. It is very durable and very resistant to soil and stains. It is fairly resilient. The price range of olefin is from medium to low.

### Walls

Walls make up the largest surface area of a room. They have many functions. They give protection from the outdoors. They hide pipes, wires and insulation. They divide space within a dwelling and provide privacy. They help reduce noise, and they serve as backgrounds for the furnishings of a room.

Before choosing a wall treatment, the size and shape of the room should be considered. If the room is small, smooth walls of light, dull colors will help it look larger. If the room is large, it will look more cozy when dark, bright colors; large patterns; or rough textures are used on the walls. See 7-61.

If the room is long and narrow, 7-62, the room's proportions will look better when one of the short walls is covered with a dark color.

Other considerations should also be made before choosing a wall treatment. It should harmonize with the ceiling and floor treatments. It should add to the general mood of the room. And most of all, it should reflect the personalities of the persons who use the room.

Walls and wall treatments vary a great deal. Each one has advantages and disadvantages. Choose the one that meets your needs and values and that fits the room's mood.

*Gypsum board* or dry wall is the most common material used for interior walls. It comes in 4 ft. by 8 ft. (1.2 m by 2.4 m) panels. Joints are taped, hidden by a fast-drying compound, then sanded. The smooth surface is covered by paint, wallpaper or fabric.



MARLETTE

7-58 A wall-to-wall carpet makes a room seem larger because the floor space is not divided into parts.



PPG INDUSTRIES

7-59 A room-size rug combines the beauty of wood with the comfort of a rug.



ETHAN ALLEN, INC.

7-60 The eating area in this room is set apart from the sleeping and dressing areas by an area rug.



7-61 Light, dull colors and smooth textures on walls make a room look larger. Dark, bright colors and lots of textural interest make a room look smaller.

*Paneling* is another common type of wall. It is usually made of plywood in 4 ft. by 8 ft. (1.2 m by 2.4 m) panels. Paneling can be applied directly to framing materials, but it is much more substantial if applied over gypsum board. Paneling comes in many different colors and textures. It is appropriate in any room. See 7-63 and 7-64.

*Brick or stone* is used mostly for decorative walls and fireplace walls, as in 7-65. It is beautiful, durable and requires little or no upkeep. However, it is costly to install. It belongs in informal settings, where it can add to the warm, cozy atmosphere.

*Cement blocks* can make attractive walls when painted. They are large, so they belong in large rooms with large pieces of furniture, rough textures and bold colors.

*Plaster* is seldom used except in commercial buildings. Applying it requires special skills and facilities. Therefore, it costs more than most other types of walls. Walls of plaster can be either smooth or rough. They are usually covered with paint.

*Ceramic tile* comes in many sizes, shapes and patterns. A wall of decorative tiles can be the point of emphasis in a room. Walls of ceramic tile are durable and easy to maintain.

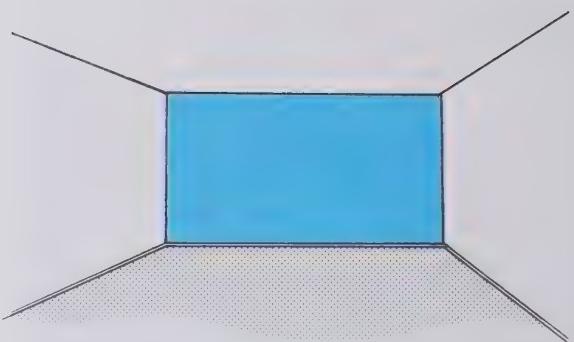
*Plastic wallboard* comes in both enamel and plastic (such as Formica) finishes. It is used mostly in bathrooms and kitchens, and it is easy to maintain.

*Carpet* is sometimes used on walls as well as on floors. Its texture adds interest to the room. Carpet is very effective in absorbing noise.

*Cork*, like carpet, is a good wall treatment for rooms where sound insulation is needed. It adds warmth and textural interest to a room.

*Fabric* can be used to cover walls. It can be attached to the wall with glue, tape or staples. Sometimes it is stretched between two curtain rods — one at the ceiling and one at the floor. See 7-66. Fabric can add color, warmth, texture, and interest to a room. Closely woven fabrics of medium weight are the best choices for wall coverings.

*Wallpaper* can copy almost any imaginable



7-62 Use a dark, bright or textured wall treatment to improve the proportions of a long, narrow room.

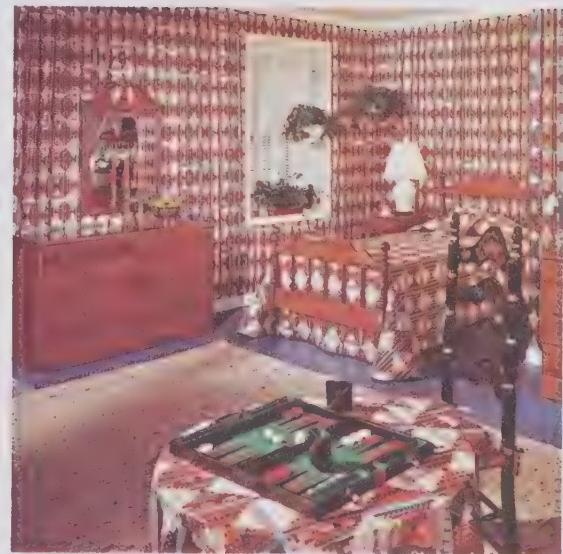


CALIFORNIA REDWOOD ASSOC.  
7-63 Paneling with a satin finish looks good in this kitchen.



ETHAN ALLEN, INC.

7-64 Paneling is a beautiful background for this elegant room.



ETHAN ALLEN, INC.

7-66 Fabric is gathered onto curtain rods to create an interesting background.



PPG INDUSTRIES

7-65 A stone wall is an attractive background for an informal room.

surface. It can look like brick, stone, wood or leather. It can look like a painted mural of an outdoor scene. Because of the variety of patterns, wallpaper can be used to enhance any room. See 7-67.

Wallpaper is practical as well as beautiful. Some wallpapers are coated with thick layers of vinyl. These resist stains and water, so they can be used in kitchens and bathrooms, 7-68. They are durable and can be scrubbed clean. Some can even be peeled off a wall and used again in another room.

Paint is the fastest and least costly way to cover wall surfaces and to change the look of a room. See 7-69.

When you choose paint, choose a color that is slightly lighter than the color you want. When color is applied to walls, it looks stronger and darker because you see so much of it.

(A good tip to remember when you have finished painting a room is to paint one side of a recipe card. Take the card with you when you shop for curtains, carpet or furniture so you can choose harmonious colors. On the back of the card, write the brand name and color name of the paint. Then if you ever want to match it, you'll have the information you need.)

Paints vary in the amount of gloss or sheen they have. Enamel paints have the most gloss. They give a protective and decorative finish to kitchen and bathroom walls, wood trim, windowsills, radiators, masonry and heating pipes.

Semi-gloss paints have less sheen and are slightly less durable than enamel paints. They can be used in most of the places enamel paints are used as well as for ceilings and walls of dry wall.

7-67 This unusual wallpaper pattern is appropriate for a den or study.



HAAS CABINET CO., INC.

Flat wall paints have no gloss. They give a soft finish to walls and ceilings. They should not be used for the walls or woodwork in kitchens and bathrooms, nor for windowsills.

Textured paints give walls a rough surface. They can be used to cover ceilings and walls that have cracks or irregularities.

### Ceilings

The ceiling of a room is the least-noticed background, but it performs many tasks. It holds and conceals insulating materials which help control the temperature in a building. It hides electrical wiring. Some ceilings also hide water and gas lines.

Ceilings affect the appearance of rooms by



7-69 Paint has been used to give this room a bright, youthful look.

KIRSCH CO.



7-68 Wallpapers with a vinyl coating are not damaged by water. They can be used in kitchens and bathrooms.

ELJER PLUMBINGWARE

helping to create certain moods. See 7-70. Average ceilings are 8 ft. (2.4 m) from the floor. Higher ceilings give a feeling of spaciousness and usually create a formal atmosphere. Lower ceilings make rooms seem smaller and usually create an informal mood.

You can create the illusion of height by using vertical lines on the walls or by running the wall treatment up onto the ceiling a short distance. A ceiling will appear lower if you use horizontal lines on the walls or extend the ceiling treatment down a short distance onto the walls. Another way to make it look lower is to use dark or patterned materials.

The three most common materials used for ceilings are plaster, acoustical plaster and acoustical tile.

*Plaster* (or wallboard finished to look like plaster) is appropriate for any room. Its surface can be either smooth or rough. It is

usually covered with a flat paint.

*Acoustical plaster* has a rough texture. It helps absorb sound and thus reduces the noise in a room. It is applied by spraying it onto the ceiling's surface.

*Acoustical tile*, 7-71, is decorative and functional. It comes in many patterns and colors. It absorbs sound and is easy to clean.

When planning backgrounds for your home, keep the goals of design in mind. This will help you achieve pleasing results in any room throughout the dwelling.



7-70 This ceiling treatment helps create a formal mood.

ARMSTRONG CORK CO.



7-71 Vinyl-coated acoustical tile absorbs sound and is easy to clean. This design is for informal kitchens.

ARMSTRONG CORK CO.

# *to* Know

analogous . . . appropriateness . . .  
backgrounds . . . balance . . .  
beauty . . . ceilings . . .  
color . . . color harmony . . .  
complementary . . . cool colors . . .  
design . . . double complementary . . .  
elements of design . . . emphasis . . .  
floors . . . form . . . hue . . .  
intensity . . . intermediate  
colors . . . line . . .  
monochromatic . . . neutral  
colors . . . primary colors . . .  
proportion . . . rhythm . . .  
secondary colors . . . shade . . .  
split complementary . . . texture . . .  
tint . . . triad . . . unity with  
variation . . . value . . . visual  
weight . . . walls . . . warm colors

# *to* Review

Write your answers on a separate sheet of paper.

1. List the three secondary colors and explain how each one can be made from primary colors.
2. Explain the difference between value and intensity of color.
3. Define neutralized colors.
4. Colors related to red are \_\_\_\_\_; colors related to blue are \_\_\_\_\_.

5. Give an example of each of the following:
  - a. Monochromatic color harmony.
  - b. Analogous color harmony.
  - c. Complementary color harmony.
6. \_\_\_\_\_ is the design element that gives direction to a design.
7. The form of an object should fit its \_\_\_\_\_.
8. The way a surface looks and feels is known as \_\_\_\_\_.
9. When you are concerned with the shape, size and visual weight of objects, you are using the design principle of \_\_\_\_\_.
10. What is the difference between formal and informal balance?
11. Explain the importance of emphasis in a design.
12. Define rhythm in design.
13. List three kinds of rhythm and give an example of each.
14. Explain the design goal of unity with variation.
15. Describe three floor treatments.
16. Describe three wall treatments.
17. Describe two ceiling treatments.

- by adding varying amounts of its complement.
4. Place a piece of green paper next to a red paper. Then place another piece of green paper next to a gray paper. Which green looks brighter?
5. Place a piece of very light blue paper next to very dark blue paper. Place another piece of very light blue paper next to medium blue paper. Which light blue is lighter?
6. Make two small “rooms” of cardboard. Cover the walls of one with light, dull, cool colors. Cover the walls of the other with dark, bright, warm colors. Which one looks larger?
7. Find pictures in magazines to illustrate the following:
  - a. Warm or cool colors.
  - b. Each type of color harmony.
  - c. Each design element.
  - d. Each design principle.
  - e. Various background treatments.
8. Make a collage showing a variety of textures that are used in housing design.

# *to* Do

1. Using only red, blue and yellow paints, mix colors to make a color wheel.
2. Make a value scale by adding black and white to a hue.
3. With paints, practice making a color less intense



## *Decisions about lighting*

*After reading this chapter,  
you will be able to  
explain variations in natural light  
and describe several types  
of window treatments.  
You will also be able to  
differentiate between incandescent  
and fluorescent light  
and plan good lighting for a home  
in terms of visual comfort,  
safety and beauty.*

*Natural and artificial light  
are combined to offer  
the best lighting for a home.*

**L**ight is an important part of your housing, inside and out. It can help you make the most of all the available space in your home. It can make your home a safe place to work and play. And it can add beauty to any living area.

Wherever you live, you will need to make many decisions about light. These decisions will be easier for you if you understand light and know how to make it work for you.

### **NATURAL LIGHT**

The availability of natural light varies in many ways. It depends on the weather, the time of day and the season of the year. More light is available on sunny days than on cloudy ones. More light is available at noon than at any other time of the day. Summer months offer more sunlight than those of spring, autumn or winter.

Natural light varies in yet another way. Light coming from the north gives a feeling of coolness. Light from the south or west gives a warm feeling. Eastern light is in between the others. It is warmer than northern light, but it is cooler than light from the south or west.

The warmth or coolness of light should be considered when planning a color scheme. As you read in Chapter 7, reds and oranges are

warm colors. You may not want to use them as the main colors in a room that faces west or south. They would multiply the effect of the warm sun. However, rooms on the north side of a dwelling may feel more comfortable if decorated with warm colors since the light they receive is cool.

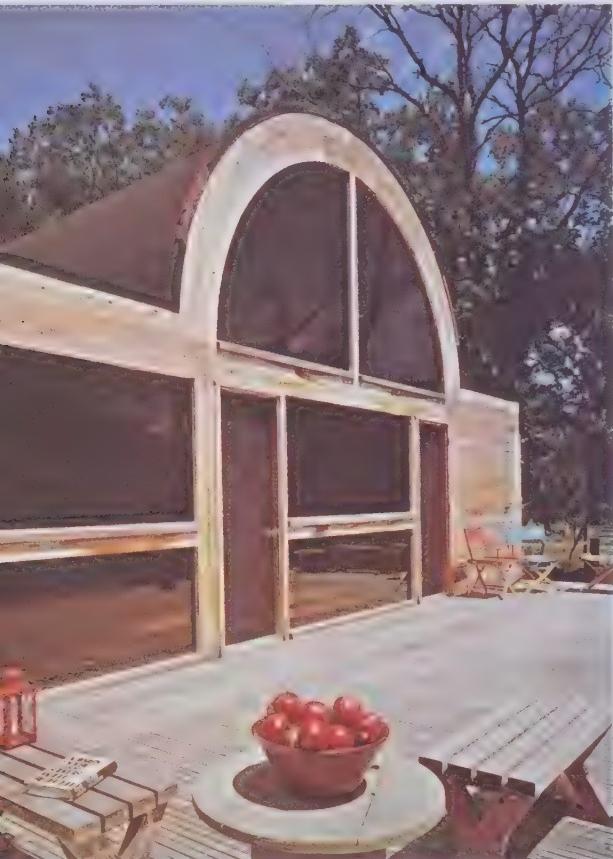
### Windows and window treatments

Windows have many uses in a room. They provide natural light, air circulation and a view. They also add to the design of a dwelling. Both the interior and exterior appearances of a building are affected by the

size, shape and location of windows. Look at the house in 8-1. Its appeal depends on the use of windows. Inside, windows can serve as the point of emphasis in a room or as part of the background, 8-2.

Windows have many different styles as shown in 8-3. Each style gives a different look to a room. A closer view of a double-hung window is shown in 8-4 so you can learn the parts of a window.

The style of window, its size and its location are factors that affect the choice of a window treatment. Another important factor is the window's major function.



8-1 Windows make both the exterior and interior designs of this house interesting.

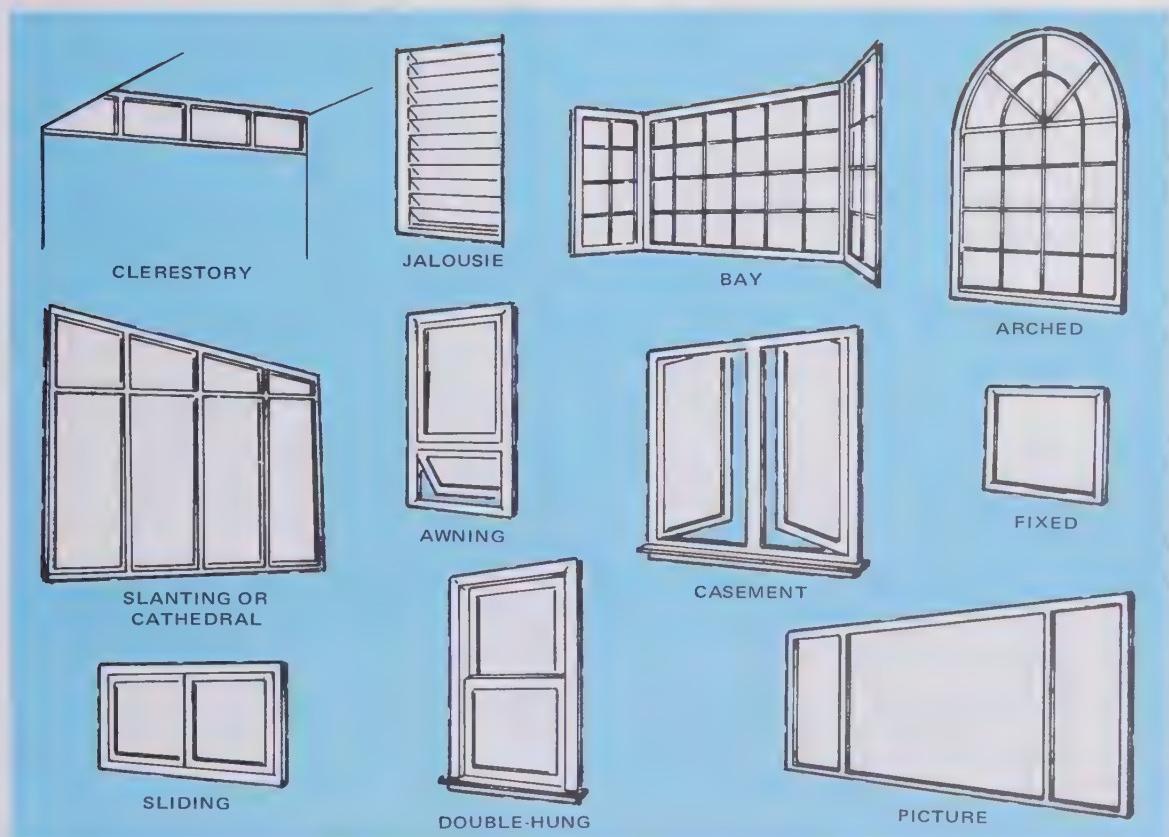


PPG INDUSTRIES



*8-2 The windows in this room are part of the background. They are hardly noticed, but they still provide light and ventilation.*

KIRSCH CO.



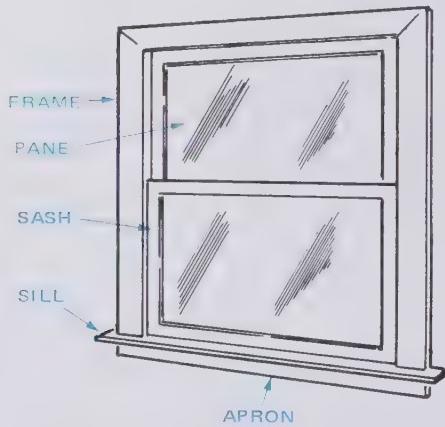
*8-3 These different types of windows require different window treatments.*

One of the functions of a window is to provide natural light. Window treatments can help you control the amount of light that enters a room. Some window treatments will allow you to block out all or part of the natural light. Others will help you get as much light as possible in a room. Look at 8-5 and 8-6 to see ways of controlling light.

Perhaps you have windows that usually let

in pleasant amounts of light, but for an hour or two each day, the sunlight is too bright for comfort. *Shades*, as shown in 8-7 and 8-8, can block out the sun's glare. Shades vary in appearance to go with almost any decor.

Windows used for air circulation cannot be covered with draperies that block air movement. *Shutters*, as in 8-9, are more appropriate for windows with that function.



8-4 The five main parts of a window are the frame, sash, pane, sill and apron.

8-5 Sheer curtains provide privacy while allowing some light to enter. The draperies could be closed to darken the room.

KIRSCH CO.



8-6 Draperies can be closed to provide privacy when desired. The uncovered upper windows allow light to enter continually.

PPG INDUSTRIES



WINDOW SHADE MFG. ASSOC.

*8-7 Shades can be raised and lowered as needed to allow varying amounts of light to enter a room.*



DEL MAR

*8-8 As you raise Roman shades from the bottom, they form soft, accordian folds.*



NATIONAL HOMES CORP.

*8-9 Wooden shutters can be adjusted to control air circulation and light.*

*Blinds* are also good window treatments where light and air need to be controlled. See 8-10 and 8-11. Blinds can be tilted to any degree to control the amounts of air and light that enter a room. Horizontal blinds can be raised completely, and vertical blinds can be moved to one side to leave a window uncovered. Blinds can be made of wood, metal, plastic or shade cloth.

Suppose you had a large picture window that overlooked a beautiful view. You would want to treat the window so the view could be enjoyed. The room in 8-12 has sliding glass doors that are treated like a big window. The draperies can be opened to provide a view of the large backyard with a swimming pool.

Where privacy is not a concern, windows can be left untreated. Look at the room in 8-13. The unusual shape of the window would make it difficult to treat. By leaving it uncovered, it adds a dramatic look to the room. Light can enter the room freely, and the view can always be enjoyed.

*Curtains and draperies.* Curtains and



8-10 These metalcrafted blinds are colorful, convenient and easy to clean.

DEL MAR

draperies are the most common window treatments. They are extremely versatile. They can fit into any decor. They can emphasize an attractive window or hide the faults of an awkward one. They can frame a beautiful view or provide privacy. They can allow sunlight to pour into a room or block it out completely. The treatment you choose depends on the room's decor and the functions of the window.

Although the variations of curtains and draperies seem endless, most will fit into one of three groups: draw draperies, curtains and cafes.

*Draw draperies* are pinch-pleated panels which can cover windows completely or be pulled to the sides. They can be lined or unlined. They can be translucent (allowing some light to enter) or opaque (blocking out all light). Draw draperies can be used alone or with other window treatments such as curtains, shades or blinds. In 8-14, two sets of



8-11 Vertical blinds of shade cloth permit light and breezes to enter.

WINDOW SHADE MFG. ASSOC.



KIRSCH CO.

8-12 This window treatment does not interfere with the pleasant outdoor view.

8-13 This striking window needs no treatment.

PPG INDUSTRIES



KIRSCH CO.

8-14 Double draw draperies are decorative and functional.

draw draperies are used. The inside ones are sheer. They filter the light that enters the room and provide some privacy. The outer draperies are made of heavier fabric. When they are closed, they block out almost all of the sunlight, provide complete privacy and help insulate the room.

*Curtains* are flat fabric panels with a pocket hem at the top. They slip onto a curtain rod and are gathered or Shirred to the desired fullness. Curtains are somewhat limited because they cannot be opened and closed. The amount of light or privacy they provide depends on the fabric that is used. Curtains of sheer fabric, as shown in 8-15, give the room a light, airy feeling. If more privacy is needed, a simple roll-up shade can be hung behind the curtains. Heavier fabric also provides privacy, but it makes the room darker.

*Cafes* cover part of a window. When more

than one tier is used, as in 8-16, the window can be completely covered. The top of each panel is joined to rings which slip over a rod. They cannot be opened by pulling a cord as draw draperies are, but you can open them by pushing them to the sides. This allows you to control air, light and privacy. By changing the width or the number of tiers, almost any look can be achieved with cafes.

The length of almost all curtains and draperies fits into one of three groups: *sill length*, *apron length* or *floor length*. If the bottom edge of a window treatment falls at any other place, it will look either too short or too long. To measure the length of draw draperies, curtains and cafes, follow the instructions in 8-17.

**Fabrics.** When choosing fabric for curtains and draperies, the major concerns are color, texture, opaqueness and durability. The color and texture of the fabric should harmonize



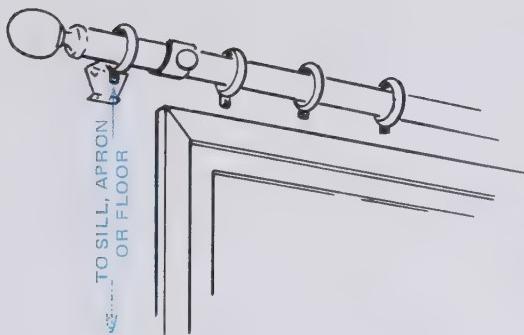
KIRSCH CO.

*8-15 Crisscross curtains of sheer fabric give a window a soft, graceful appearance.*



KIRSCH CO.

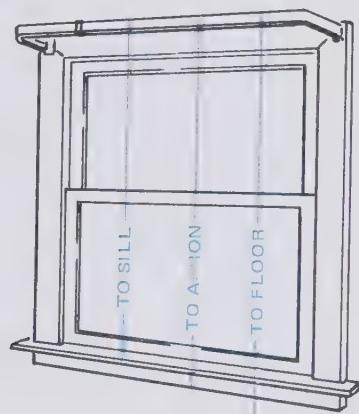
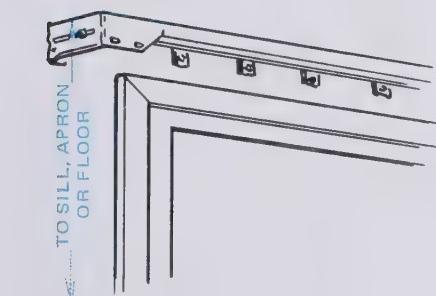
*8-16 Cafes look fresh and friendly. They are best for informal settings.*



#### DRAW DRAPERIES

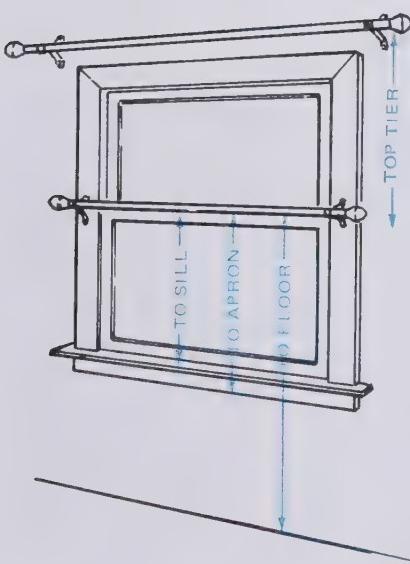
Hang traverse rod 1 in. (2.5 cm) above the frame for decorative rods and 2 in. (5 cm) above the frame for conventional rods. In either case, the rod should be at least 4 in. (10 cm) above the glass.

Measure from either the bottom of the decorative rings or the top of the conventional rods. Measure to the sill, apron or floor. If measuring to the floor, subtract 1 in. (2.5 cm) for clearance.



#### CURTAINS

Measure from the top of the frame to the sill, apron or floor. If measuring to the floor, subtract 1 in. (2.5 cm) for clearance.



#### CAFES

Top tier: Measure from the top rod to the desired hem. This tier usually covers the lower rod.

Lower tier: Measure from the lower rod to the sill, apron or floor. If measuring to the floor, subtract 1 in. (2.5 cm) for clearance.

**8-17** How to measure lengths for draw draperies, curtains and cafes.

with the room's furnishings. The opaqueness of the fabric should allow the window to do its job — to provide either light or privacy.

The durability of a fabric depends largely on its fiber content. The chart in 8-18 describes *fiber characteristics* related to curtains and draperies. Fibers that are sunlight resistant are not weakened by the sun. Draperies made of abrasion resistant fibers are not damaged by rubbing against the floor or windowsill when they are opened and closed. Since burning draperies can cause serious home fires, fire resistant fibers are good choices. Cleaning curtains and draperies can be easy if the fibers do not need special care.

Fibers often receive special finishes to improve one or more of their characteristics. Some finishes make the dyes sunfast so they will not fade. Other finishes can make the fibers more fire resistant or easier to clean.

Draperies are sometimes lined to protect them from the sun. Other reasons for using linings are that they add body to draperies and make them hang better; they make draperies look better from the outside of the dwelling; and they provide better insulation.

**Cost.** The cost of curtains and draperies varies widely. It depends on the quality of fabric and the amount of fabric needed. Floor-length curtains usually cost more than short ones. Lined draperies cost more than unlined ones.

Another factor in the cost of curtains and draperies is the process you use to acquire them. The least costly process is to make them yourself. Curtains and cafes are easy if you know how to sew. Draperies are a little more difficult. The next least costly method is to buy ready-mades in a store. If your windows are a standard size, this is usually an easy process. If your windows have odd shapes or unusual sizes, or if you want a special effect, you will need custom-made curtains and draperies. This is the most costly process of acquisition. Someone will come to your home, measure your windows and perhaps offer suggestions to you. Then he or she will make just the right window treatments for your home.

## Windows and energy

Plain glass windows provide little insulation for a home. In warm weather, heat can enter a dwelling through windows. In cold weather, coolness can enter, and heat can escape. This transfer of heat wastes energy. One solution to this problem would be to eliminate windows, but few people are willing to do that.

Some insulation is provided by window treatments. Foam-backed or lined draperies are the best. The problem with draperies is that they must be closed to block the transfer of heat.

By using special insulating glass for windows, you can enjoy the beauty of windows and conserve energy. Insulating glass reduces the transfer of heat between the inside of a dwelling and the outdoors. It helps lower heating and air-conditioning bills.

In summer, heat enters a dwelling through sunlight as well as through warm air. A special type of glass is available that reflects sunlight and helps keep the inside of a home cool. It works like a one-way mirror. Inside, it increases privacy, reduces the glare of the sun and improves the view of the outdoors. From the outside, it reflects its surroundings and creates an interesting effect. In warm climates, this type of glass can be installed permanently in homes. See 8-19. In areas with hot summers and cold winters, storm windows with this glass can be installed for the summer and replaced with conventional storm windows for the winter.

## ARTIFICIAL LIGHT

Since natural light is not always available, artificial light is also needed. The two main kinds of artificial light for homes are incandescent and fluorescent.

### Incandescent light

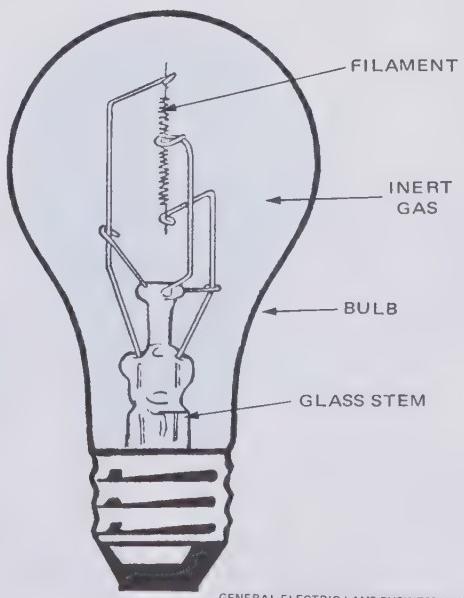
*Incandescent light* is produced when an electric current passes through a fine tungsten filament inside a bulb. The filament is heated by the electricity until it glows and gives off light. See 8-20. The bulbs may vary in shape

FIBER	SUNLIGHT RESISTANCE	ABRASION RESISTANCE	FIRE RESISTANCE	CLEANING PROCESS	COMMENTS
Fiberglass	High	Low	High	Washable No ironing	Often feels stiff
Polyester	Medium	High	Melts	Washable No ironing	Most popular fiber for sheers
Nylon	Low	High	Melts	Washable Little ironing	Overall durability affected by finishes
Acrylic	High	Medium	Low	Washable Little ironing	Good appearance Very durable
Modacrylic	Medium	Medium	High	Washable Press with low heat	Used in blends with other fibers
Cotton	Medium	Medium	Burns	Washable Ironing depends on finish	Low cost Soils easily
Rayon	Low	Low	Burns	Shrinks unless given a special finish	Low cost Used in blends Improved by finishes
Acetate	Low	Low	Burns	Dry-clean	Good appearance Low cost Poor durability

*8-18 Fiber characteristics play a big part in the performance of curtains and draperies.*



*8-19 Glass that reflects sunlight helps keep the inside of a home cool and conserves energy.*



*8-20 Inside an incandescent light bulb, inert gas surrounds a filament. Electric current heats the filament and makes it glow.*

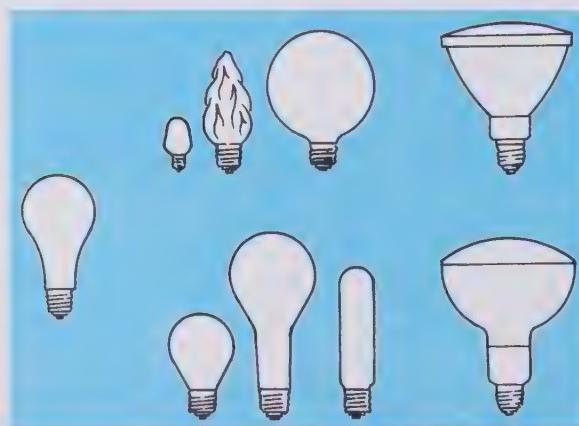
and size, as shown in 8-21, but they all work the same way.

Incandescent light bulbs for household use range from 15 to 300 watts. *Watts* indicate the amount of electrical power used by the bulb. When comparing two incandescent bulbs, the one with the higher wattage will give off more light. The chart in 8-22 lists the recommended wattages for some household activities.

Many kinds of special incandescent bulbs are available. One is the three-way bulb. Sets of filaments can operate separately or together to give off different amounts of light. Some sizes and uses for three-way bulbs are listed in 8-23.

Most incandescent bulbs used in homes have a *frost finish* which covers the entire inside surface of the bulb. The main purpose of the finish is to cut down glare so the light appears smoother and shadows are softened. The frost finish also makes the bulb last longer and keeps the surface of the bulb fairly cool. A lamp shade that accidentally touches a bulb with this finish is not likely to be damaged by it.

A clear bulb without a finish produces a great deal of glare. It should be used only in fixtures which hide it completely from view.



8-21 Incandescent bulbs have many different shapes and sizes. The most common shape is shown at left.

Some bulbs have silver or aluminum coatings. Two such bulbs are shown at the right in 8-21. They focus the light in a certain direction. Other bulbs are coated with silicone rubber. This coating prevents the glass from shattering if the bulb breaks.

Another variation in incandescent bulbs is color. Colored bulbs can be used to set the mood of a room. Blue lights are sometimes used to make a room seem restful or romantic. On the other hand, a red bulb gives off the kind of light that creates a feeling of excitement. Bulbs with yellow coatings are used to keep insects away. They do not repel insects, but the yellow coating blocks the light rays that attract them.

#### SELECTION GUIDE FOR INCANDESCENT BULBS

ACTIVITY	MINIMUM RECOMMENDED WATTAGE*
Reading, writing, sewing Occasional periods Prolonged periods	150 200 or 300
Grooming Bathroom mirror 1 fixture each side of mirror 1 cup-type fixture over mirror 1 fixture over mirror Bathroom ceiling fixture Vanity table lamps, in pairs (person seated) Dresser lamps, in pairs (person standing)	1 – 50 or 2 – 40s 100 150 150 100 each 150 each
Kitchen work Ceiling fixture (2 or more in a large area) Fixture over sink Fixture for eating area (separately from workspace)	150 or 200 150 150
Shopwork Fixture for workbench (2 or more for long bench)	150

\*white bulbs preferred

8-22 Your activities determine the quantity of light you need.

## Fluorescent light

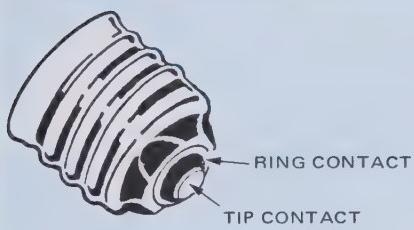
*Fluorescent light* was introduced around 1950. Mercury vapor is sealed in a long tube. When the vapor is activated by electricity, it produces invisible ultraviolet rays. These rays are converted into visible light rays by a coating of fluorescent material on the inside of the glass tube.

Changing the coating of fluorescent material changes the color of the light. Red, pink, gold, green and blue can be used for deco-

rative purposes. Several different "whites" are also available. *Cool white* is the most widely used fluorescent light in schools and offices. It is very efficient; it blends well with sunlight; and it makes colors look good. *Warm white* is the most efficient white fluorescent light. But it is not flattering to some colors. *Deluxe cool white* most closely imitates natural daylight. *Home-lite* is the most common fluorescent light for homes and restaurants. It imitates incandescent light

SIZES AND USES FOR THREE-WAY INCANDESCENT BULBS

	WATTAGE	FINISH	USES
Bulbs with Standard (medium) Three-way Bases	30-70-100	Soft white	Dressing table or dresser lamps, TV or decorative lamps, small pin-ups.
	50-100-150	Soft white	End table or junior floor and swing-arm lamps, study lamps with diffusing bowls.
	50-200-250	Soft white	End table or junior floor and swing-arm lamps, study lamps with diffusing bowls.
Bulb with Large (mogul) Three-way Bases	100-200-300	Soft white	Senior table and floor lamps with mogul sockets.



LARGE OR MOGUL BASE



STANDARD OR MEDIUM BASE

Lower wattage filaments connect with ring contact. Higher wattage filaments connect with tip contact. The filaments can be used separately or together, depending on the amount of light desired.

8-23 The standard or medium base of three-way bulbs is suited to most household uses.

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closely and has a warm, friendly glow.

Fluorescent tubes may be either straight or curved to form a circle. They are available in various sizes. The lengths of the straight tubes or the diameters of circline ones determine their wattages. See 8-24.

Wattage refers to the amount of current used, not the amount of light produced. Fluorescent light is more efficient than incandescent light. A fluorescent tube produces about four times as much light as an incandescent bulb with the same wattage. Other comparisons between incandescent and fluorescent lighting are given in 8-25.

## LET LIGHT WORK FOR YOU

If used to its best advantage, light can work for you in many ways. It can be either reflected or absorbed. It can shine directly on a certain spot or lighten a room in general. It can help make your home visually comfortable, safe and beautiful.

### Reflection of light

Light, color and texture are closely related. Without light, there is no color. In turn, colors reflect and absorb various amounts of light. Surfaces with rough textures look darker because tiny shadows fall in the places light cannot reach. Together, light, color and texture greatly affect the appearance of a room.

Light is *reflected* by light colors and smooth, shiny surfaces. Reflected light is the light that bounces off surfaces. See 8-26. Light seems to come from these surfaces as well as from the real source.

Have you ever been blinded by light reflected from a smooth, shiny object? The chrome on a car in front of you sometimes reflects sunlight into your eyes. The more directly the light rays strike the car, the more directly they are reflected into your eyes.

Light reflects off smooth surfaces in your home too. One of the functions of backgrounds in a home is to reflect light. Study 8-27 to learn how much light can be reflected by background areas.

### Absorption of light

Rough textures and dark colors *absorb* most of the available light rays. If light is absorbed, it cannot be reflected.

Have you noticed how well you see the light-colored lines in the middle of the highway? The next time you travel, notice the appearance of the road. You will see that the light-colored stripes reflect light while the dark-colored road absorbs light.

You can use this same concept in your home. Use light colors in large areas such as backgrounds to make a home appear lighter and brighter. You will have a more comfortable home while using less electricity for light.

### Measuring light

Amounts of light can be measured with the use of a light meter. The unit of measure is the footcandle. A *footcandle* is the amount of

POPULAR SIZES OF  
FLUORESCENT TUBES

Straight Tubes	WATTAGE	LENGTH
	14	15 in. (38 cm)
	15	18 in. (46 cm)
	20	24 in. (61 cm)
	30	36 in. (91 cm)
Circline	40	48 in. (122 cm)
	WATTAGE	OUTSIDE DIAMETER OF CIRCLE
	22	8 1/4 in. (21 cm)
	32	12 in. (30 cm)
	40	16 in. (41 cm)

8-24 The wattages for fluorescent tubes depend on the lengths of the straight tubes or the diameters of circline tubes.

#### Incandescent bulbs . . .

- are less expensive to install and replace.
- light up as soon as current is supplied.
- give more light from smaller space.

#### Fluorescent tubes . . .

- are less expensive to use.
- last longer.
- produce very little heat.

8-25 A comparison between incandescent and fluorescent lighting.

light a standard candle gives at a distance of one foot. (In metric terms, 1 footcandle equals about 10 lux or .1 hectolux.) See 8-28.

Through research, amounts of light needed for various activities under normal conditions have been determined. The recommended amounts of light for various tasks are listed in 8-29.

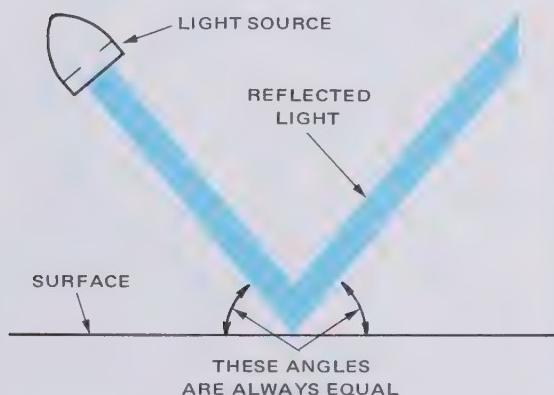
### Diffused light

The word diffused means widely spread or scattered. *Diffused light* is light that is scattered over a large area.

Glare is the most troublesome aspect of lighting. Diffused light has no glare. It has a "soft" appearance. The devices used to scatter light are called diffusers. Some diffusers are pictured in 8-30.

### Direct and indirect lighting

*Direct lighting* is so called because it shines directly toward where it is used, 8-31. Very little is reflected from other surfaces. Direct lighting provides the most light possible to a specific area. If used alone, direct lighting can create a sharp contrast between light and dark, as shown in 8-32. This can cause eye fatigue. To prevent this, do not use direct lighting by itself. If direct lighting is needed for a task, use it in addition to other room lighting.



8-26 A light ray travels in a straight line. It hits and bounces from a surface at identical angles.

*Indirect lighting* is usually directed toward ceilings and walls. The majority of the light is reflected from these surfaces. See 8-33. Indirect lighting provides "soft" light for a large area. It does not provide enough light for detailed work.

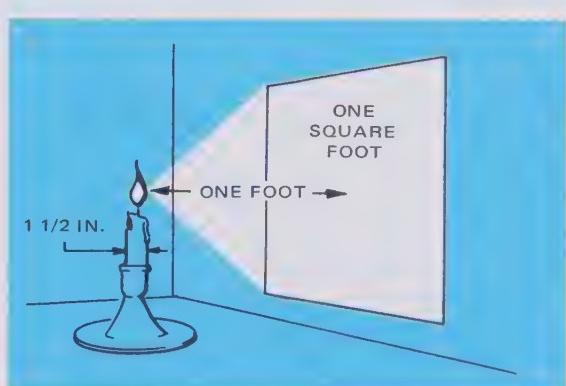
### Lighting for visual comfort

To have visual comfort in your home, you need two basic types of lighting: general and specific. The type and the amount you need vary for each room.

BACKGROUND	MINIMUM	MAXIMUM
Ceilings Pale Color Tints	60%	90%
Walls Medium Shades	35%	60%
Floors Carpeting, Tiles, Woods	15%	35%

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8-27 This chart suggests minimum and maximum amounts of light that are reflected by background areas.



8-28 A footcandle is the unit of measure for amounts of light. In the metric system, one hectolux (100 lux) equals about 10 footcandles.

*General lighting* provides a low level of light. This type is needed throughout your home. Without it, you cannot see things clearly nor move about safely.

The amount of general lighting you need depends on the size, shape and use of the lighted area. The chart in 8-34 can serve as a guide as you plan the amount of general lighting needed throughout your home.

General lighting does not always supply enough light for visual comfort. In these cases, it can be supplemented by *specific lighting*.

Specific lighting can be called "task" lighting when it is used to help you see well enough to do a certain task. Writing letters, carving wood and sewing, 8-35, are just a few of the tasks that require specific or "task" lighting. The amount of specific lighting you need depends on your activity. Having the right amount will prevent eyestrain. The finer the detail or the faster the action taking place, the more light you need. For instance, playing ping pong requires more light than playing pool.

Reading also requires specific lighting. If you plan to read for quite a while, you need about 70 footcandles (7.0 hectolux) of light over the reading area. A lamp that is in the correct position and that has a 200 watt bulb can give this amount of light. See 8-36.

Specific lighting in one part of a room can serve as general lighting for another part. For instance, if you are reading in one corner of a family room, the lamp that you use for specific lighting would add to the general lighting of the entire room.

To get the right amount of good quality light, combine general and specific lighting. Together, they give adequate light without sharp contrast. Look at 8-37. The lamp by the television provides general lighting for that area of the dwelling. The lamp by the sofa provides specific lighting for reading and adds to the general lighting. The lamp on the desk provides specific lighting, and the valance lighting provides general lighting. In the kitchen area, the wall bracket lighting provides specific lighting for counter work as well

## LIGHTING FOR THE HOME

SEEING TASK	AMOUNT OF LIGHT ON PRIMARY TASK PLANE (in footcandles*)
Dining	15
Grooming	
Shaving	50
Applying make-up	50
Handcrafts	
Ordinary seeing tasks	70
Difficult seeing tasks	100
Very difficult seeing tasks	150
Critical seeing tasks	200
Ironing	50
Kitchen Duties	
Food preparation and cleaning that involves difficult seeing tasks	150
Serving and other non-critical tasks	50
Laundry Tasks	
Preparation, sorting, hand wash	50
Washer and dryer areas	30
Reading and Writing	
Handwriting, reproductions, poor copies	70
Books, magazines and newspapers	30
Reading Piano or Organ Scores	
Advanced (substandard size)	150
Advanced	70
Simple	30
Sewing	
Dark fabrics	200
Medium fabrics	100
Light fabrics	50
Occasional, high contrast	30
Study	70
Table Games	30

\* Divide by 10 to determine approximate number of hectolux.

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**8-29** Use this chart to determine the approximate amount of light you need for a certain activity. For instance, when you dine, the amount of light falling onto the table should be about 15 footcandles (1.5 hectolux).

as a great deal of general lighting. The hanging fixture provides both specific light for dining and general light for the room. Each of the areas is visually comfortable.

### Lighting for safety

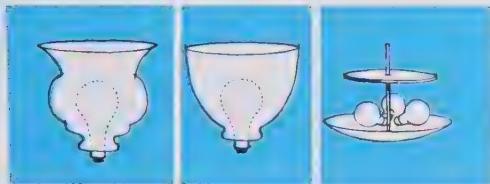
Darkness can be unsafe. To guard against accidents, plan lighting where it will work best for you. If you can answer "yes" to the following questions, you will know your lighting is planned for safety. Can you:

- Light your way as you go from room to room?

- Switch lights on or off from each doorway?
- Turn on stairway lighting as you go up or down?
- Light entrances as you enter?
- Control garage or carport lighting from the house?
- Control outside lighting from inside the house?

Another aspect of lighting for safety concerns safe wiring. To assure safety, the wiring used for lighting should meet certain standards which are set by various groups. The National Electrical Code is a standard with which all wiring should comply. There are often local requirements as well. When you

TYPES OF DIFFUSERS



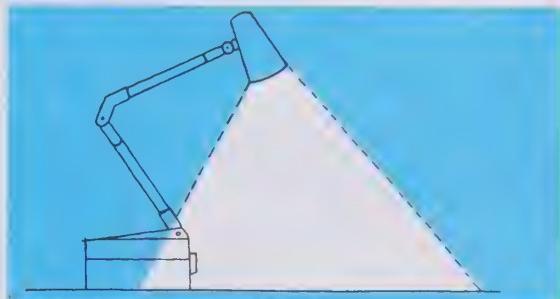
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**8-30 Diffused light is used to lighten a room without being so bright that it hurts your eyes.**

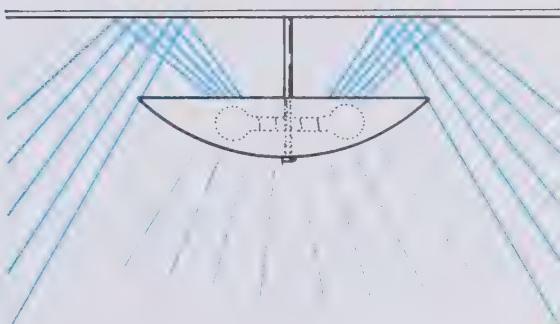


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**8-31 Direct lighting shines straight ahead. It is not reflected until it has lighted the surface to be used.**



**8-32 Direct lighting is useful when doing detailed work. It should always be combined with other room lighting.**



**8-33 Indirect lighting is reflected by background surfaces.**

## MINIMUM GENERAL LIGHTING NEEDED FOR VARIOUS ROOM TYPES AND SIZES

Areas	Fixtures	Structural		Recessed
		Ceiling-Mounted or Suspended	Valance/Cornice Wall Bracket*	
LIVING	(light widely distributed)			(Recreation or Family Rooms)
	Living Room, Family, Bedroom Small (under 150 sq. ft.)	3 to 5-socket fixture, total 150–200 watts	8–12 ft.	Four 75 watt incandescent Two 40 watt fluorescent
	Average (185–250 sq. ft.)	4 to 6-socket fixture, total 200–300 watts	16–20 ft.	††Four 100 watt incandescent Three 40 watt or Four 30 watt fluorescent
	Large (over 250 sq. ft.)	1 watt per sq. ft. and 1 fixture per 125 sq. ft.	1 foot/15 sq. ft.	Incandescent: ††One 100 watt or 150 watt per 40–50 sq. ft. Fluorescent: Two 40 watt or three 30 watt or six 20 watt per 100 sq. ft.
SERVICE				††Two 150 watt incandescent or two 40 watt fluorescent
	Kitchen, Laundry, Workshop Small (under 75 sq. ft.)	150 watt incandescent or total 60 watt fluorescent	Use single row of fluorescents on top of open-to-ceiling cabinets – or in soffit extended 8–12 in. beyond cabinets	Not suitable for general lighting in these areas
	Average (75–120 sq. ft.)	Incandescent: 150–200 watt or Fluorescent total 60–80 watt	or	††Four 100 watt incandescent or two 40 watt fluorescent
	Large (over 120 sq. ft.)	Incandescent: 2 watts per sq. ft. or Fluorescent: 3/4 to 1 watt per sq. ft.	5 to 6 watts/sq. ft. in fluorescent for luminous ceiling	Incandescent: ††One 100 watt per 30 sq. ft. or ††One 150 watt per 40 sq. ft. Fluorescent: Two 40 watt or three 30 watt or six 20 watt per 60 sq. ft.

\*Or use equal length of wall lighting with recessed wall washers or floodlights.

\*\*Should not be located above heads of seated persons; may be 18 in. or more in any direction from this point.

††Minimum Size: 10 in., 12 in. or 14 in. preferable.

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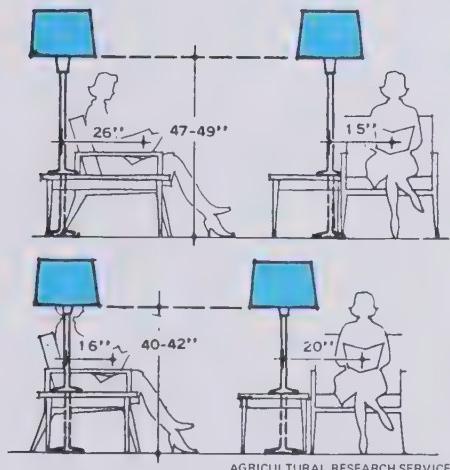
Metric Conversions	12 ft.	3.7 m
	16 ft.	4.9 m
8 in.	20.3 cm	6.1 m
10 in.	25.4 cm	0.9 m <sup>2</sup>
12 in.	30.5 cm	1.38 m <sup>2</sup>
14 in.	35.6 cm	2.76 m <sup>2</sup>
18 in.	45.7 cm	3.68 m <sup>2</sup>
8 ft.	2.4 m	4.60 m <sup>2</sup>

5.52 m <sup>2</sup>	6.90 m <sup>2</sup>
60 sq. ft.	75 sq. ft.
100 sq. ft.	120 sq. ft.
125 sq. ft.	150 sq. ft.
185 sq. ft.	250 sq. ft.



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*8-35 Specific lighting is needed for detailed work such as sewing. It can be supplied by a movable pole lamp, a ceiling fixture or a wall lamp.*

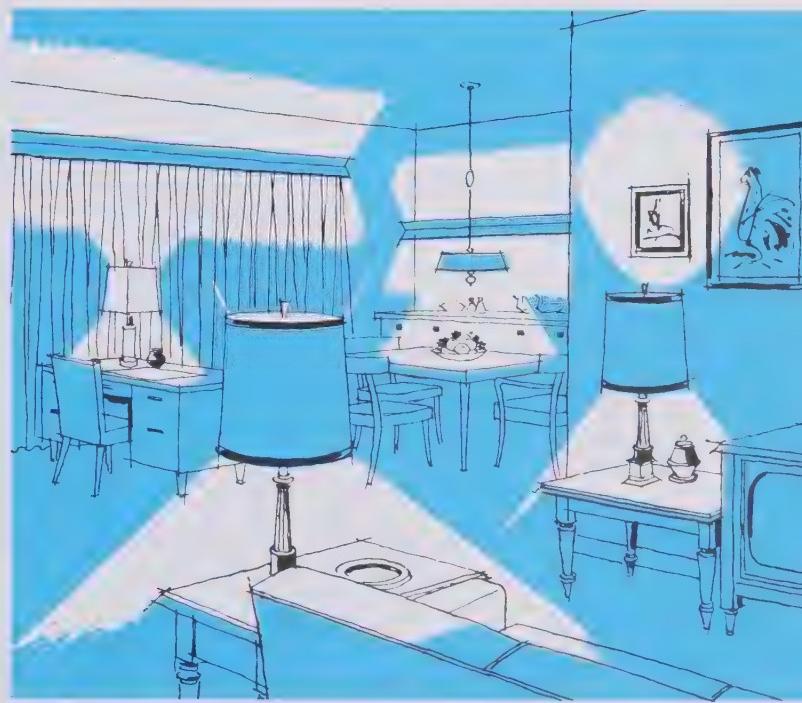


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#### METRIC CONVERSIONS

15 in.	38 cm
16 in.	41 cm
20 in.	51 cm
26 in.	66 cm
40 in.	102 cm
42 in.	107 cm
47 in.	119 cm
49 in.	124 cm

*8-36 Lamp shades above eye level should be farther behind you, but closer to your side, than lamp shades at eye level.*



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*8-37 Specific and general lighting work together to make a home visually comfortable.*

purchase anything with an electrical part, look for the Underwriters' Laboratories seal of approval, 8-38. It tells you that the appliance was manufactured according to safety standards. However, it does not assure you that the parts will continue to be safe. You have the responsibility of using the appliance safely and watching for any possible dangers. If instructions for the use and care of an appliance are available, read them and follow them. Know what to expect of appliances and how to use them.

Electrical circuits should not be overloaded. Do not plug too many appliances into one socket. The excess load could blow a fuse and you would be without electric power in all or part of your home. Even worse, a fire could start.

### **Lighting for beauty**

While all light can be decorative, some lighting is used for beauty alone. Soft light can create a quiet, restful mood. Sharper light can be used to focus on the point of emphasis in a room such as an art object, 8-39. When lighting is used in this way, it is called *accent lighting*.

Decorative lighting can be used outside as well as inside a home, 8-40. Huge yard lights are often used in rural settings, while smaller ones are used in urban areas. Lights near entrances are also common. Patios can be lighted for night use. In such areas, you will want the light to be attractive. Harsh and glaring light should be avoided. With the right choices, you can have pleasant, glowing light.

## **STRUCTURAL AND NONSTRUCTURAL LIGHTING**

When lighting is a part of the built-in design of a dwelling, it is called *structural lighting*. It is either included in the original blueprint or added during a remodeling project. If you buy a house that is already built or if you rent a home, the decisions about structural lighting will have been made for you.

Types of structural lighting are pictured in

8-41. *Valance lighting* is used over windows. Fluorescent light is directed upward and downward, giving both direct and indirect lighting. Valance lighting restores the daytime lighting balance to a room.

*Wall bracket lighting* is just like valance lighting except that it is used on plain walls instead of over windows. Light is directed both upward and downward. It can be used for general or accent lighting.

*Cornice lighting* begins at the ceiling. All the light shines downward, giving direct light only. It can be used on almost any wall for a variety of effects.

*Cove lighting* begins near the ceiling. All the light is directed upward, giving indirect lighting only. It is good general lighting, but it must be supplemented with specific lighting. Cove lighting gives a room a feeling of height.

*Recessed downlights* are installed in ceilings. When several are used together, they supply good general lighting. A few of them can be used for accent lighting. The typical "scalloped" pattern of light and shadow gives a dramatic look.

*Surface-mounted downlights* are just like recessed downlights except that the housing (can or cylinder) is in plain view below the ceiling.

*Wall washers* are also installed in the ceiling. They have a contoured inner reflector that directs nearly uniform light on a wall from ceiling to floor. It gives a smooth look to walls.

*Soffit lighting* may be built into a ceiling or attached to it. Soffit lighting is used where a large amount of light is needed.

*Luminous ceilings* are made of panels that cover recessed lights. They make a room feel spacious.

### **Light fixtures**

The wiring for light fixtures is a part of the dwelling's structure, but the fixtures are not. You have a chance to choose fixtures for any home even if it is not custom built. You can select a style in harmony with other aspects of the room's design. Some styles from which you can choose are pictured in 8-42.



8-38 The Underwriters' Laboratories seal of approval assures you that an appliance was made according to safety guidelines.



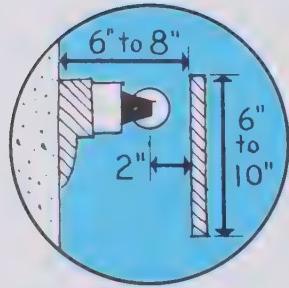
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8-39 Accent lighting can emphasize certain features in a room.

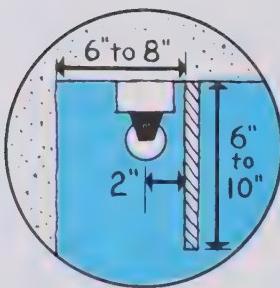


8-40 Lighting gives this dwelling a dramatic appearance.

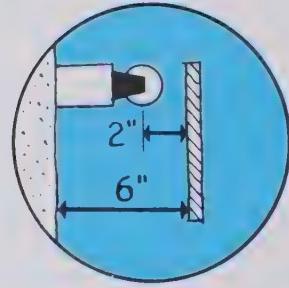
PPG INDUSTRIES



VALANCE LIGHTING



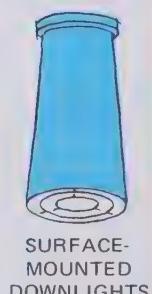
CORNICE LIGHTING



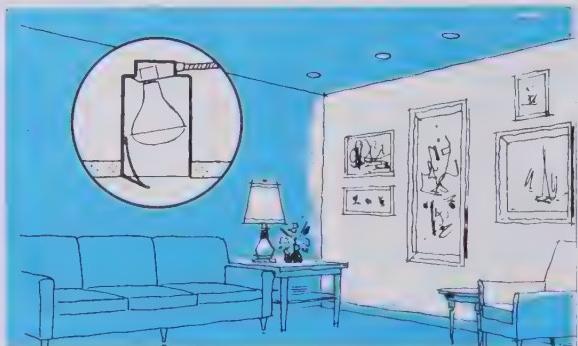
WALL BRACKET LIGHTING



RECESSED DOWNLIGHTS



SURFACE-MOUNTED DOWNLIGHTS



WALL WASHERS

GENERAL ELECTRIC LAMP BUSINESS DIV.

*8-41 As shown on these two pages, structural lighting can create special effects in a room. It must be planned while the dwelling is being built or remodeled.*



SOFFIT LIGHTING

ELJER PLUMBINGWARE



LUMINOUS CEILING

ELJER PLUMBINGWARE



COVE LIGHTING

GENERAL ELECTRIC LAMP BUSINESS DIV

When choosing fixtures, consider these points:

- Diffused light gives more visual comfort than exposed bulbs which can produce glare.
- Look for fixtures whose position can be changed. This increases their use. Some fixtures may be raised or lowered. Others swing or swivel for a variety of effects.
- Fixtures that provide for changing the quantity of light (as three-way bulbs) have more uses.

### Lamps

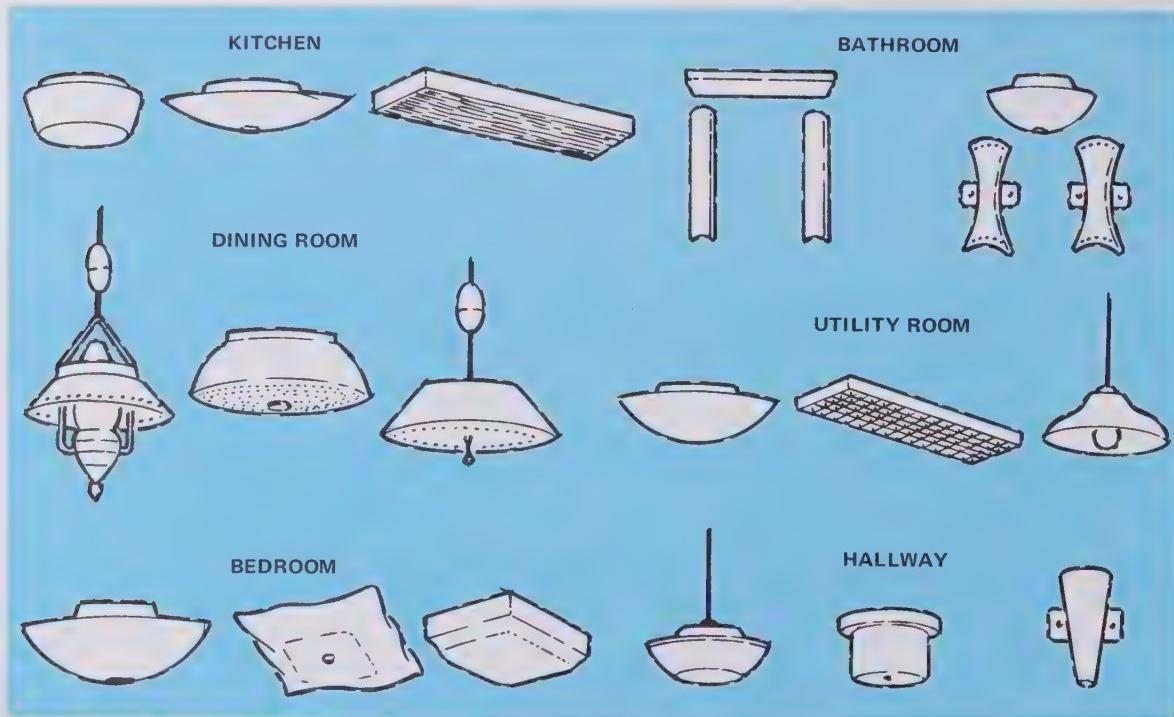
*Movable lamps* are the oldest type of lighting for homes. Since they can be moved, changed and replaced more easily than any other form of lighting, you can make many choices about them.

When you choose a lamp, you may want it for decorative purposes only. Or you may need good light for safety or visual comfort.

You can find a lamp to fill any of these needs.

In choosing lamps, the following points can be useful:

- A sturdy or heavy base prevents tipping.
  - A diffusing bowl prevents glare.
  - A harp makes it possible to change the height of the lamp shade. (A harp is a metal hoop or arch that supports a shade.)
  - The colors and textures of lamps and their shades should harmonize.
  - Light-colored translucent shades give off the most light.
  - Lamps that can be adjusted are the most practical. Some can be raised and lowered, such as swag lamps. Some have swinging arms, and some can use three-way bulbs.
- Lamps, light fixtures, structural lighting and natural light can be combined in many different ways, 8-43. The goal is always to achieve good lighting throughout the dwelling. Study 8-44 to gain a better understanding of the choices you can make about lighting.



8-42 Fixtures for different rooms have many different forms.



*8-43 A light fixture and a movable lamp are combined with natural light from the window to provide good lighting for this room.*

KIRSCH CO.

#### STRUCTURAL AND NONSTRUCTURAL LIGHTING

DECISIONS	RANGE OF AVAILABLE CHOICES		
<b>Location</b>	Ceiling fixtures Wall fixtures Movable lamps		
<b>Form</b>	Surface mounted Suspended Recessed Bracket Valance Cornice Cove Incandescent General Direct		
<b>Acquisition</b>	or or or Fluorescent Specific Indirect Initial Operating Maintenance Replacing		

*8-44 You have many decisions to make when choosing lighting for a home.*

# *to* Know

absorbed light . . . accent lighting . . . artificial light . . . blinds . . . cafes . . . curtains . . . diffused light . . . direct lighting . . . draw draperies . . . fluorescent light . . . footcandle . . . general lighting . . . hectolux . . . incandescent light . . . indirect lighting . . . light fixtures . . . natural light . . . nonstructural lighting . . . opaque . . . reflected light . . . shades . . . shutters . . . specific lighting . . . structural lighting . . . task lighting . . . translucent . . . watts

# *to* Review

Write your answers on a separate sheet of paper.

1. Name three factors that affect the availability of natural light.
2. Which light gives the coolest feeling?
  - a. Northern light.
  - b. Eastern light.
  - c. Southern light.
  - d. Western light.
3. List three functions of a window.
4. The bottom edge of curtains, cafes and draw draperies should fall at one of three places: the sill, the floor or the \_\_\_\_\_.
5. Describe two ways to reduce the amount of heat transfer through windows.
6. Compare incandescent and fluorescent light in terms of installation cost and operating cost.

7. List three ways light can work for you in your home. Give an example of each.
8. Match the following:

_____ a. Unit of measure for amounts of light.
_____ b. Unit of measure for current used.
_____ c. Part of incandescent bulb.
_____ d. Gives off ultraviolet rays when activated by electricity.
_____ e. Reflects light.

  1. Bulb.
  2. Rough, dull surface.
  3. Diffuser.
  4. Tungsten filament.
  5. Footcandle or lux.
  6. Smooth, shiny surface.
  7. Mercury vapor.
  8. Watt.

# *to* Do

1. Given a floor plan, list activities which would take place in each room. Then indicate the location, form and amount of light needed in each room.
2. To study glare, do the following projects under a bright light. Cut a 3 in. (7.6 cm) circle from a piece of dark, mat-finished cardboard. Place it on a larger piece of white, reflective cardboard. Look at the dark circle for a while and notice how tired your eyes become. Then write several words on the white cardboard. Notice how difficult it is to read
- the words. Finally, place circles of light and dark cardboard on a piece of kitchen aluminum wrap. Observe that it is almost impossible to see their outlines.
3. Compare light from several different sources: a frosted bulb, colored bulbs, a cool white fluorescent tube and a warm white fluorescent tube. Place lights near each other. Compare each light with sunlight. Turn on all lights and observe the different colors of light. Shine all lights on a white surface and note the differences. Then shine them all on a colored surface and note the differences.
4. Working in small groups, examine the illustrations throughout this book that show lighting. Make a list of the different types you find and give reasons you think they were used.
5. Find out the code for electrical wiring in your locality. Who is responsible for inspection?
6. Look for the Underwriters' Laboratories seal of approval on lamps and electrical appliances in your classroom and home.
7. Find and mount pictures of various window treatments on a bulletin board.

# Furnishings and equipment

*After reading this chapter,  
you will be able to list points  
to check in determining  
the quality of furniture.  
You will be able to describe  
various furniture styles and  
to choose household appliances  
to fit your needs.*

**D**epending on the type of housing you have, you will need to make either a few or a lot of decisions about how it is furnished and equipped. If you prefer not to make so many of these decisions, you may choose a furnished home. Most such homes are rented apartments in multifamily dwellings. The majority of single-family dwellings are rented or sold unfurnished.

Whatever type of housing you have, you will probably furnish at least part of it yourself. You will have some decisions to make about furnishings and equipment.

## CHOOSING FURNITURE

If you are like most people, you cannot afford to buy all of the furniture you would like at one time. You must decide what to get first.

### Getting started

You begin by listing your needs and knowing how much you can afford to spend. You will consider location, form and acquisition, the three major areas of housing decisions. (Refer to Chapter 3 if you want to review decision-making.)

This list of ideas will help you get started.

1. Buy the things you need most. Select basic pieces for sleeping, eating, seating and storage.
2. Select furniture that can be used for more than one purpose. A sofa bed can be used for sitting and for sleeping. A bench can serve as either a seat or a coffee table. Some dining chairs look good in living rooms too.
3. Plan for the future. Choose pieces that you can recycle. For instance, you might choose a durable table and chair set. It can be used inside until you have more money to spend. Then you can use it on a patio or porch and replace it with a nicer set.
4. Use makeshift furniture from garage sales, secondhand stores and relatives until you decide which styles you really like and until you can afford furniture of good quality. When you are ready, buy well-made furniture. It is worth the higher price because it lasts longer.
5. Check pieces of furniture carefully before you buy. Do all movable parts operate? Are the joints tight and well-made? Is the finish smooth and durable? Is it well-braced at points of stress?
6. Plan around the larger pieces of furniture. Small items like lamps should be chosen to go with sofas and other large pieces.
7. Choose pieces of furniture that fit your life-style. Even beautiful pieces of furniture are of little value if you do not use them.

### **Consider the consequences**

Suppose you made a spur-of-the-moment decision and bought a king-size water bed. What would the consequences be? If you have never slept on one, you might find it uncomfortable. Because it is so large, it might take up most of the floor space in the room. You may not have enough space for other activities such as dressing, studying and working on hobbies. You may not have enough space to add other furnishings such as a dresser, a desk

or a comfortable chair. Can you see that one choice influences other choices as you furnish a room or house?

Your decisions should be made to satisfy you and the members of your living unit. They should not be made for the satisfaction of friends or neighbors since they only visit you. Those living in the dwelling need satisfaction from its furnishings more than anyone else.

## **FURNITURE CONSTRUCTION**

Wood, metal, plastic, glass and fabric are all used in the construction of furniture. Sometimes a combination of materials is used, 9-1. The materials you choose depend on the desires of your living unit, the mood of the room and the amount of money you can afford to spend.

### **Wood**

Each kind of wood has its own characteristics. However, the part of the tree from which the piece of wood comes adds certain characteristics as shown in 9-2.

A *grain* or pattern is formed as a tree grows. The stump or base of the tree has a beautiful, irregular grain caused by the twisted and irregular growth of the tree's roots. Crotchwood has a special grain caused by branches growing out from the trunk of a tree. Lumber is cut to show off this grain. Trees that have been damaged and healed have a unique and highly prized grain called burl.

The way the trunk of the tree is cut into pieces can affect the appearance of wood grain. Quartered, rotary and flat cut methods each give a different look to the same kind of wood.

**Hardwood and softwood.** Wood for furniture can be either hardwood or softwood. Hardwood comes from deciduous trees (trees that lose their leaves). The most popular hardwoods used for quality furniture include walnut, mahogany, pecan, cherry, maple and oak. Hardwood does not dent easily. It is stronger than softwood, but it costs more.

Softwood comes from evergreen trees. It does not have the beautiful grain of hardwood, and it dents easily. Cedar, redwood, pine, fir and spruce are the most common softwoods used for furniture.

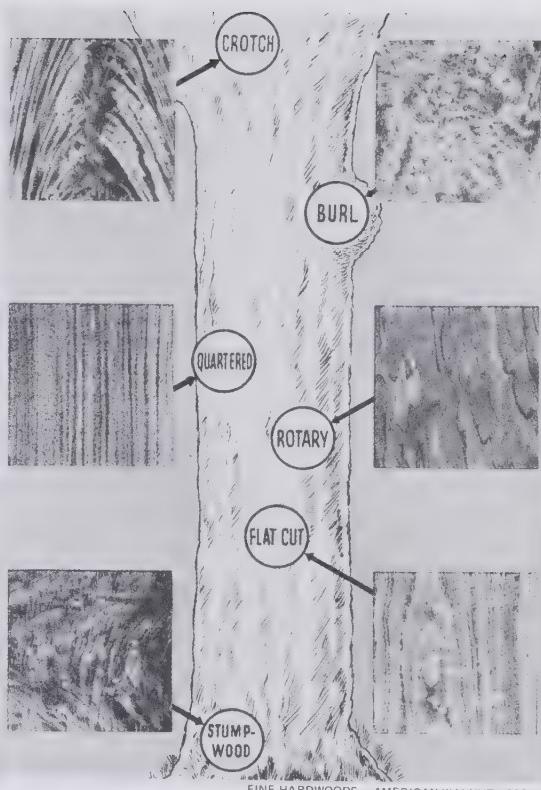
Furniture can be made of all hardwood, all softwood, or a combination of the two.

**Solid wood and veneered wood.** Solid wood furniture construction means that all of the exposed parts are made of whole pieces of wood. Such furniture is usually expensive, especially if it is made of hardwood. The disadvantage of solid wood is that it has a tendency to warp, swell and crack.

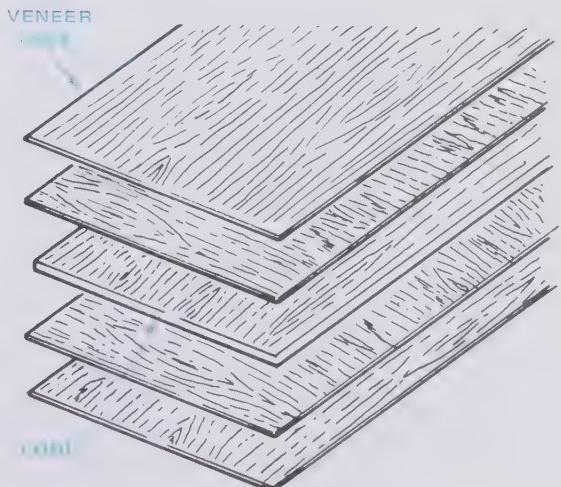
Veneered wood or plywood furniture is more common today. The wood is a "sandwich" of three, five or seven thin layers of wood. Layers are bonded to each other, to a solid wood core or to a pressed wood core, 9-3. The outside layers are veneers of fine wood. Rare woods and beautiful grains can be used. Veneering makes fine woods available at a moderate cost. It also permits the use of fragile woods since the inside layers add strength. Most of the furniture made since 1900 is at least partly veneered.



9-1 Wood, metal and glass were all used in the construction of furniture for this room.



9-2 Wood grain varies according to the part of the tree from which the lumber comes and the way it is cut.



9-3 In plywood, the grain of alternate veneers runs at right angles. This adds strength to the plywood.

**Wood joints.** Wood pieces can be fastened together in many different ways. The most common wood joints are pictured in 9-4.

Gluing is used on all joints for added strength. Today, some glues are stronger than wood!

A *mortise and tenon* joint is one of the strongest joints used for furniture. The glued tenon fits tightly into the "hole" or mortise. No nails or screws are used. Common uses are for chairs and headboards where stretchers are joined to leg posts or where top rails are joined to back posts.

*Double dowel* joints are very common and very strong. Glued wooden dowels fit into drilled holes in both pieces of wood.

*Corner blocks* support and reinforce the furniture frame. They are used in the construction of chairs and tables. They keep one side from pulling away from the other.

*Dovetail* joints are used in fastening two pieces of wood that meet at right angles. They are always found in drawers of good quality furniture.

*Tongue and groove* joints are invisible if they are made skillfully. They are used where several boards are to be joined lengthwise as for table tops.

*Butt* joints are the weakest of the joints. One board is simply glued or nailed flush to another board.

**Finishing wood furniture.** Wood furniture may be left unfinished or given a finish for added protection or beauty.

In unfinished furniture, the wood is left as it was when the furniture was constructed. There is no sealer, wax nor varnish on the surface. You are expected to finish it. Much of the unfinished furniture comes unassembled (not put together). The initial cost of unfinished furniture is low. But before you buy, be sure to consider the cost of finishing it yourself. It will cost you money, time and effort.

Finished furniture has been treated in some way to protect and/or improve the wood surfaces. Some finishes are plastics which resist moisture, stains and burning. Some are decorative and bring out the natural

beauty of the wood. Others, such as paint, are sometimes used to hide a surface that is not attractive.

When you buy wood furniture, read the labels carefully. They will tell you what finishes have been applied, the purpose of the finishes and the care they should receive. Be sure you understand all the terms on the labels; the meanings can be confusing. For instance, the term "genuine walnut" on a label means that actual walnut wood was used as the face veneer. However, the term "walnut finish" means only that the wood has been finished to look like walnut.

Other points to check before buying wood furniture are listed in 9-5.

#### **Plastic, metal and glass furniture**

*Plastic* furniture is usually less expensive than wood. It is lightweight, sturdy, easy to clean and often brightly colored. Generally, it looks best in contemporary settings as the one in 9-6.

When you choose plastic furniture, pay attention to the following:

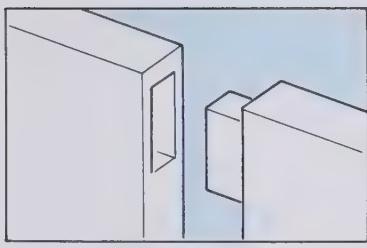
- Is the piece strong and durable?
- Are the edges smooth and the surfaces without flaws?
- Are color and gloss uniform?
- Are the parts that reinforce the piece hidden unless they are part of the design?

If plastic is used, it should not be made to imitate other materials. The design should take advantage of the special properties of plastic.

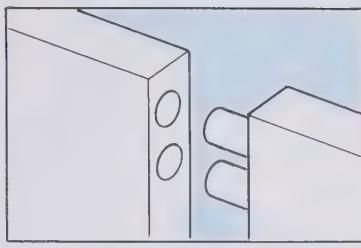
*Metal* is popular for outdoor furniture and is often used indoors too. Wrought iron, steel, aluminum and chrome are popular. Metal is often combined with *glass* as shown in 9-7. Glass also combines well with wood.

These guidelines will help you choose furniture of metal and glass:

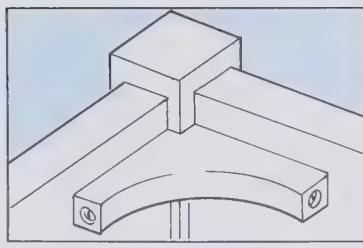
- Is the metal or the metallic finish rust-proof?
- Is the surface smooth?
- Is the glass tempered for safety and durability?
- Is there a ledge or groove to keep glass firmly in place?



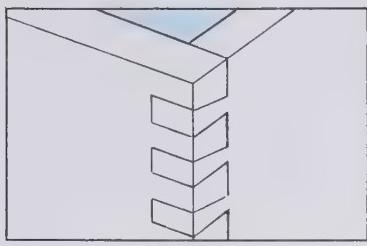
MORTISE AND TENON



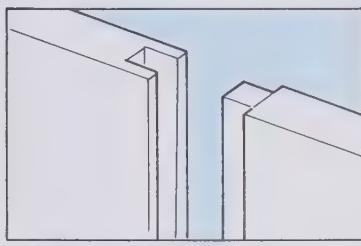
DOUBLE DOWEL



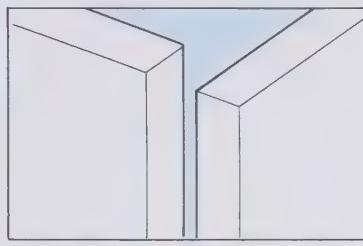
CORNER BLOCK



DOVETAIL



TONGUE AND GROOVE



BUTT

**9-4 Joints are an important factor in determining the quality of pieces of furniture.**

#### CHECKLIST WHEN SHOPPING FOR WOOD FURNITURE

- Do doors shut tightly without sticking?
- Are doors and drawers flush with openings?
- Have corner blocks been used for reinforcement?
- Has dovetail construction been used in drawers?
- Are dust panels provided between drawers?
- Do drawers slide easily on guide strips or ball bearings?
- Are legs attached with mortise and tenon or dowel joints?
- Do legs stand squarely upon the floor?
- Have insides of drawers, backs of chests and undersides of tables and chairs been sanded and finished?
- Are surfaces smooth when touched with fingertips?
- Do you know if exterior surfaces are solid, veneered, or a wood finish stain?
- Has a protective plastic coating been used on surfaces that will receive hard wear?
- Will the furniture piece fulfill your use, style, color and size requirements?
- Is the piece of furniture within your preplanned budget?

SEARS CONSUMER INFORMATION SERVICES

**9-5 You may find this checklist useful when choosing wood furniture.**



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**9-6 Molded plastic gives this dining set a clean, smooth, contemporary look.**

## Upholstered furniture

Chairs, sofas and other pieces of padded furniture are called upholstered furniture. See 9-8 and 9-9. The greater part, and sometimes all, of the exposed surface is covered with fabric. This outer covering hides the inner construction details. Because these details are hidden, choosing good-quality upholstered furniture can be difficult. Shop in stores you can trust, and buy brand names you recognize. Read all labels attached to the piece. If you have questions, talk with a knowledgeable salesperson. The following information will give you some background knowledge so you will know what to look for yourself and what questions you should ask.

**Upholstery fabrics.** Fabric is an important part of upholstered furniture. It is also a clue to the overall quality of a piece. Furniture of good quality will have durable and well-

tailored upholstery fabric.

The three classes of fabrics are:

1. Woven.
2. Nonwoven.
3. Knitted.

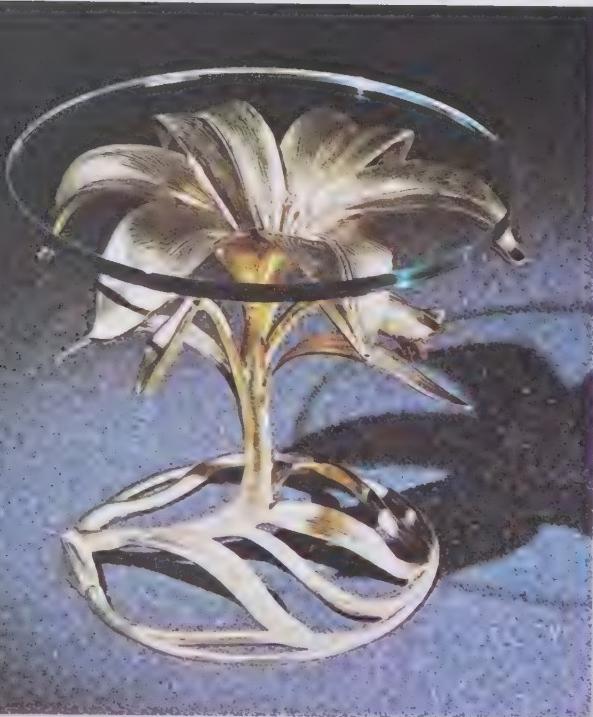
**Woven fabrics.** Most upholstery fabrics are woven. Woven fabrics are made by crossing two sets of yarns (warp yarns in the lengthwise direction and filling yarns in the crosswise direction).

Woven fabrics are made of only three basic weaves. All other weaves are variations of these three. The basic weaves are:

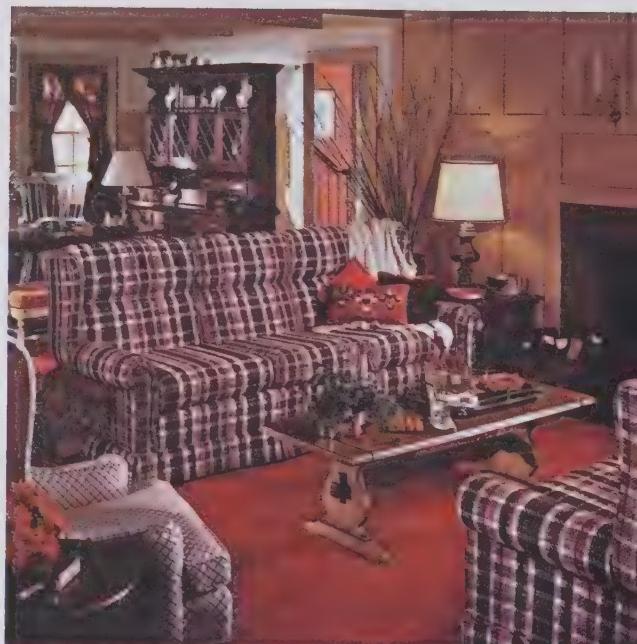
1. Plain weave.
2. Twill weave.
3. Satin weave.

They vary according to the way the yarns are crossed or interlaced. Study 9-10 through 9-14 to see examples of the three basic weaves and two common variations.

**Pile weaves** are variations of the basic weaves. They have yarn loops or cut yarns



9-7 Metal and glass are combined in this unusual accessory table.



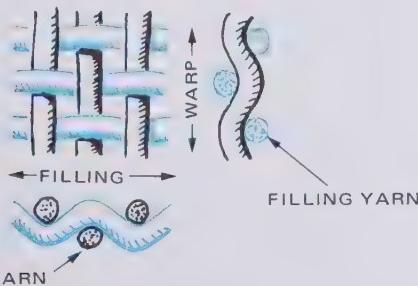
9-8 The framework of some upholstered furniture is covered completely by fabric.

ETHAN ALLEN, INC.

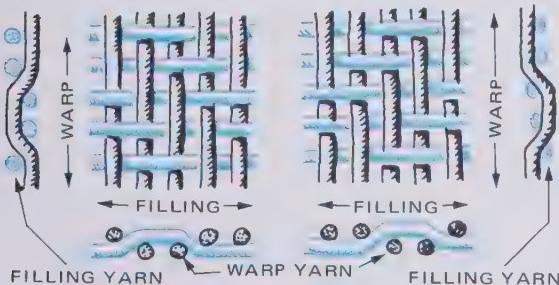


LANE CO., INC.

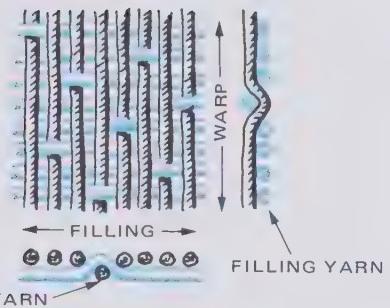
**9-9** The wood and fabric on this upholstered chair look good together.



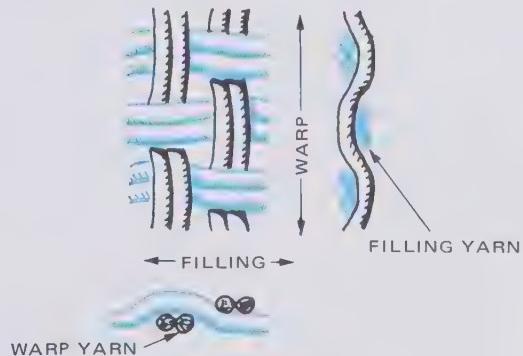
**9-10** In the plain weave, each filling yarn passes over, then under, each warp yarn.



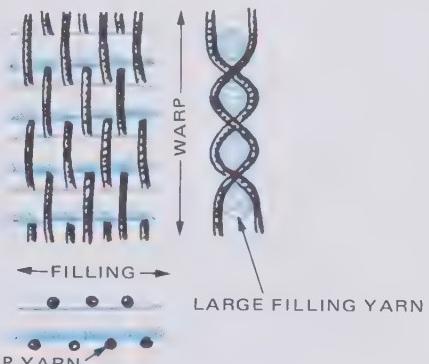
**9-11.** Each warp or filling yarn passes over two or more yarns to form the twill weave. The interlacings progress by one to either the right or left to create a pattern of diagonal lines.



**9-12** One yarn crosses over several yarns and then under one yarn to form the satin weave. The interlacings progress by two to either the right or left. A smooth surface results.



**9-13** The basket weave is a variation of the plain weave. Two or more filling yarns are interlaced with two or more warp yarns.



**9-14** The rib weave is a variation of the plain weave. The warp and filling yarns are of different sizes.

standing away from the base of the fabric. In 9-15, you can compare a plain weave, loop-pile weave and cut-pile weave.

Frieze is a heavy, coarse, pile fabric used mainly for upholstery. Velvet, velveteen, corduroy and terry cloth are other pile-weave fabrics.

Another special weave that is sometimes used for upholstery fabrics is the Jacquard weave. Designs are woven into the fabric with different colors of yarn. Each warp yarn is individually controlled. This allows beautiful, detailed designs to be made. Parts of the design are often emphasized by raised areas.

Upholstery fabrics of good quality are durable and easy to clean as well as beautiful. When choosing upholstery fabrics, consider the following points:

- Tight, close weaves are of better quality than loose weaves.
- Heavyweight fabrics are more durable than medium-weight fabrics.
- Pile fabrics are more durable than flat fabrics.
- Long floats (as in the satin weave) tend to snag.
- Fabrics in which the warp and filling yarns are equal in number and in size are durable.
- Stain-resistant finishes make woven fabrics easier to clean.

**Nonwoven fabrics.** Leather and vinyl are the two most common nonwoven fabrics used for upholstery.

Natural leather is strong and durable. With special finishes, it resists stains, fading and cracking. The disadvantage of leather is its high cost.

Vinyl is durable, easy to clean and low in cost. Vinyl fabric for upholstery should be medium-weight or heavyweight. It is usually backed with a knit fabric to give it more stability and strength.

**Knitted fabrics.** Knitted fabrics are made of interlooping yarns. The closeness and size of the loops may vary as well as the way the loops are joined. See 9-16.

Though knitted fabrics are increasing in use as upholstery material, they are not as popular as woven fabrics. They lack the stability and body needed for durable upholstery. Their major use is for backing other fabrics.

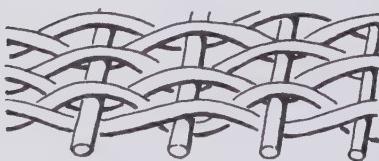
**Fabric design.** Designs or patterns in fabrics may be structural or applied. *Structural* designs are made by varying the yarns as the fabric is either woven or knitted. The size, texture and placement of the yarns all affect the final pattern.

*Applied designs* offer even more variety to fabrics. Any pattern can be printed onto a fabric, and dyes can be used to achieve any color.

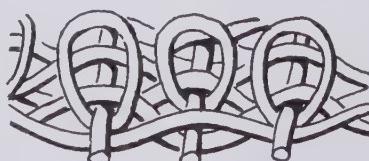
Whether it is structural or applied, the fabric design you choose should fit into the overall design plan for the room. Consider the size and the style of the piece of furniture, the other colors and patterns used in the room and the general mood of the room.

**Fiber facts.** Many kinds of fibers are used to make fabrics. A few — cotton, flax (or linen), wool and silk — are *natural* fibers. They come from plants and animals. Other fibers are *manufactured* from chemicals.

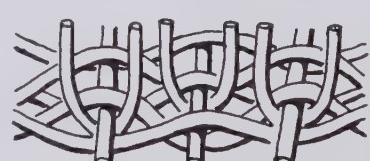
Each fiber has its own characteristics. The characteristics have a great influence on the quality and performance of the fabric. Before



PLAIN WEAVE



LOOP-PILE WEAVE



CUT-PILE WEAVE

9-15 A pile-weave fabric has additional yarn covering its surface.

you buy upholstered furniture, find out what fibers are used in the fabric. Some are more durable than others, so they will look nicer for a longer time. Here are some guidelines to follow:

- Nylon is very strong and very resistant to abrasion (rubbing action).
- Polyester and olefin are strong and resistant to abrasion.
- Wool, acrylic, flax and cotton are fairly strong and fairly resistant to abrasion.
- Rayon and acetate are weak and have poor resistance to abrasion.

By altering manufacturing processes, manufactured fibers can be made stronger. The performance of fabrics can be improved by using a combination of types of fibers or by adding special finishes. Changes like these are mentioned on labels of upholstered furniture. Always read the labels before you buy.

**Frames, springs and cushions.** Frames of upholstered furniture are made of wood or metal. Many of the points you would check when buying wood or metal furniture also apply to the frames of upholstered furniture.

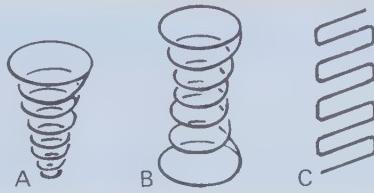
Springs are a part of the inner construction. The type and number of springs help determine the quality. There are two types of springs: *coil* and *flat*. See 9-17. Coil springs are used in heavier furniture. You can "sink into" furniture with coil springs. Lightweight pieces of furniture with sleek lines usually

have flat or zigzag springs. They offer firm comfort at lower cost.

Cushions are often made of urethane foam or foam rubber. These materials are durable, lightweight and resilient. They can be molded into any shape, and they come in many sizes and degrees of firmness.

Covered or pocketed coils, as shown in 9-18, are sometimes used in cushions. They are usually covered with a thin layer of foam rubber and a layer of fabric. Other cushions are filled with down and feathers. These are very comfortable, but not as durable as foam.

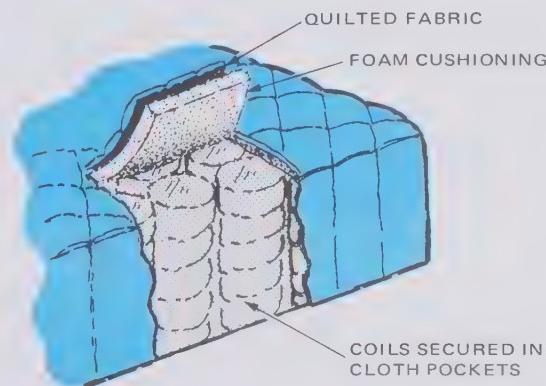
The cutaway illustration in 9-19 shows the inner construction of a sofa. You can see how different materials are combined to provide seating comfort.



9-17 (A) Single-cone coil springs are used in medium-priced furniture. (B) Double-cone springs are more comfortable. (C) Flat, zigzag springs are used when a minimum of bulk is desired.



9-16 Knitted fabrics vary according to yarn size, yarn texture and loop construction. The weft stitch allows more stretch than the warp stitch.



9-18 Covered or pocketed coils provide great seating comfort.

*Comfort* is the most important factor to consider when choosing upholstered furniture. Regardless of the quality, a sofa that does not feel comfortable to you is a poor buy. Sit in it. Check the height and depth of the seat. Check the height of the back and arms. Be sure it fits your body's proportions.

Some points to consider when shopping for upholstered furniture are listed in 9-20.

### Sleep furniture

Comfort is most important when choosing sleep furniture. Before you buy a bed, be sure to lie on it. That is the only way to see if it is comfortable for you.

About one-third of your life is spent sleeping, so you should choose the best sleeping furniture you can afford. Since you cannot see the inside construction of a bed, you need to choose a reliable dealer, 9-21.

Most beds have a mattress, springs and a frame as shown in 9-22. Headboards and footboards may or may not be added.

**Mattresses.** The most popular type of mattress is the *innerspring* mattress. It is filled with a series of coil springs. The springs vary in number, size, placement, gauge (thickness of wire) and whether or not they are individually pocketed. This type of mattress also varies in the amount of padding that covers the springs. These factors determine the firmness and comfort of the mattress. Manufacturers say that a good quality innerspring mattress should have these features:

1. At least 300 heavy coils firmly anchored.
2. Good padding and insulation placed over and between coils.
3. A tightly woven cover with a nonsag border.

*Foam* mattresses are also popular. They are made of latex or polyurethane foam. The foam is cut or molded to shape and is usually covered with a ticking (a tightly woven cotton cloth) like other types of mattresses. Foam mattresses are lighter in weight and lower in cost than innerspring mattresses.

Foam mattresses are often preferred by people who suffer from allergies. They vary in

thickness, firmness and quality. A mattress of good quality will be about 6 in. (15 cm) thick. It will have some holes or cores in it. The greater the number of cores, the softer the mattress will be.

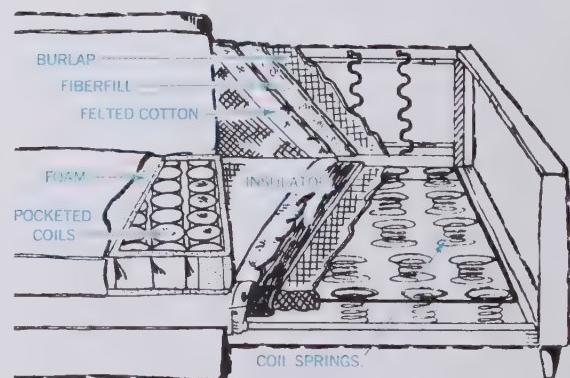
Mattresses can be filled with almost anything — including water. Water beds conform exactly to body curves and thus provide good, firm support. However, some people find them uncomfortable because the water moves whenever they shift position.

Water beds consist of a heavy-duty plastic water bag, a frame and a watertight liner between the bed and frame to protect against leaks. They also have a heating device to warm the water.

Water beds are heavy when they are filled. A standard-size bed weighs about 1600 lb. (720 kg). Buildings must have strong foundations to support them. Many leases include a phrase that prohibits water beds in rented dwellings.

**Springs.** Most beds have springs to support the mattress. Bed springs have three basic forms: *box*, *coil* and *flat*. See 9-23.

The most expensive, and the most desirable for most people, are box springs. In these, the coils are attached to a base. The coils are then padded and covered. The coils



9-19 Double-cone coil springs are used in the seat of this sofa, and flat springs are used for back support. Pocketed coils, foam and layers of fibers provide maximum seating comfort.

## CHECKLIST WHEN SHOPPING FOR UPHOLSTERED FURNITURE

- Are the legs and joints securely attached?
- Have you read the labels or asked a salesperson what kind of springs have been used?
- Do you know the cushion materials and how they have been constructed?
- Do the cushions have zipper closings? (Zippers give a neat fit and are not for removing when cleaning.)
- Are the cushions reversible?
- Does the outer covering have a well-tailored appearance?
- Will the fiber and construction of the outer covering give good wearability for your purpose?
- Does the outer covering have a soil/stain resistant finish?
- Is it comfortable for the person who will use it the most?
- If a sleeper/sofa, is it comfortable and convenient for both sitting and sleeping?
- Is it appropriate in style, design and color for the room?
- Is it within your preplanned budget?

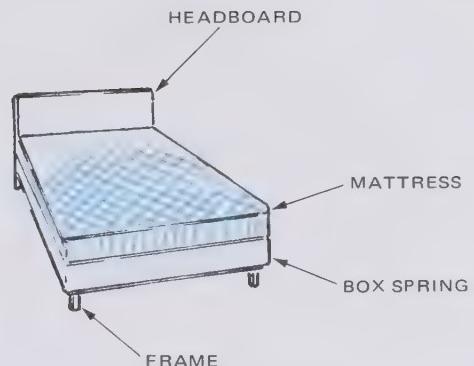
SEARS CONSUMER INFORMATION SERVICES

**9-20 Check these points before you buy pieces of upholstered furniture.**

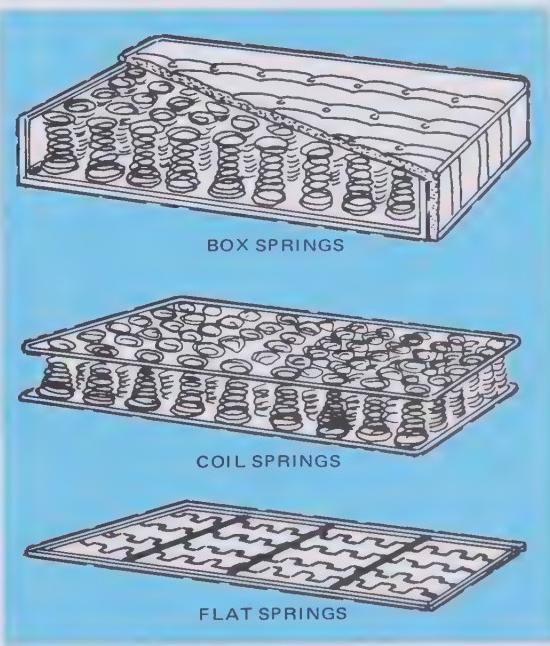


**9-21 Quality is more important in sleep furniture than in most other types of furniture. Buy it in a store you can trust.**

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**9-22 A typical bed includes a mattress, springs and frame. Headboards and footboards are optional.**



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**9-23 Box springs are coil springs that are padded and covered. Coil springs are anchored to a frame and to each other. Flat springs are likely to sag.**

may vary in number, size, placement and gauge.

When the spiral-shaped springs are without padding and covering, they are called coil springs. In quality and cost, coil springs are between box springs and flat springs.

Flat springs are the least costly. They are lightweight and take up a minimum of space.

Regardless of the type of springs or mattress you choose, they should be bought in matching sets. A common combination is an innerspring mattress and box springs. When they are purchased as a set, the coils in the mattress line up with the coils in the box springs. This makes the bed much more comfortable.

**Frames.** In some cases, springs (especially flat springs) are built into a bed frame. More often, a sleep set is placed on a simple metal frame. Headboards and footboards can be attached to the frame if desired.

### Dual-purpose sleep furniture

If you need sleep furniture for an occasional guest, you might like to consider dual-purpose furniture. A sofa which converts to a bed can be used in any room you choose. Sofas, like beds, come in several sizes. You can choose them to fit the space you have in a room.

Four common styles of dual-purpose sleep furniture are shown in 9-24. A *divan bed* has a foam or innerspring mattress that folds up inside the seat. It provides the most seating and sleeping comfort. The term *sofa bed* is sometimes used for any type of dual-purpose sleep furniture. Specifically, it refers to a sofa that has a fold-down back that converts into a bed. A *studio couch* is an upholstered mattress on an upholstered frame. When the upper cushions are removed, it is much like a twin bed. A *studio lounge* usually has a foam pad resting on flat springs.

### CONSUMER PROTECTION

Buying furniture is a big investment. To help protect your investment, the government has agencies that work for consumers. The

Federal Trade Commission (FTC) and the Consumer Product Safety Commission (CPSC) are two such agencies. Federal laws also protect you. The Flammable Fabrics Act prohibits the sale of highly flammable fabrics for apparel and home furnishings. The Textile Fiber Products Identification Act requires that the generic names of fibers appear on labels of all textile products (such as upholstery, carpets and draperies).

There is also voluntary control of the quality of materials and construction methods used for furniture. Some producers of fibers and manufacturers of fabrics set their own high levels of performance. Some furniture companies have also set high standards for themselves. These companies guarantee the durability and performance of their products after you buy them. Information about superior-quality materials and guarantees is given on the labels of furniture. It is your responsibility as a smart consumer to read the labels on anything you buy so you will know what to expect from the product.

## CHOOSING FURNITURE STYLES

Choosing furniture styles is a matter of taste or personal preference. Your decisions cannot be called "right" or "wrong" by anyone else. However, after studying the various styles, you will have a better idea of which styles you like and how to use each style to its best advantage.

The *style* of furniture refers to design only. It has nothing to do with cost or quality of construction. Any style, from Queen Anne to contemporary, can be made of good materials and good construction methods.

### Traditional furniture styles

Furniture styles that were developed in the past are called *traditional* or *period* furniture styles. Each one comes from a different period in history. You can get an idea of the time reference for some traditional furniture styles by looking at 9-25.

*Traditional styles from France.* While Louis XIII was King of France, furniture

styles were grand and formal. Rich inlays, carvings and classical motifs were typical.

*Louis XIV*, the Sun King, built the magnificent Versailles palace. Its furnishings were extravagant with heavy ornamentation and gold overlays.

During the reign of *Louis XV*, furniture styles became more delicate with smaller proportions. Curved lines and soft colors were dominant.

Just before the French Revolution, *Louis XVI* and Marie Antoinette ruled France. Simple, straight lines and classic motifs such as fluted columns were popular in furniture.

While Napoleon ruled France, he dominated everything – even furniture styles. He made the dignified style called *Empire* popular. The furniture was ornamented with his “N” and military symbols. Egyptian and Roman motifs were also used.

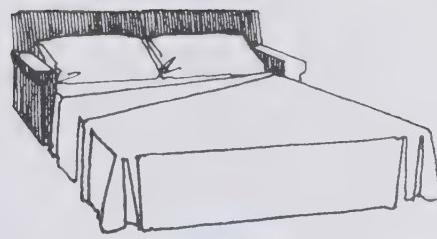
The popularity of the *Art Nouveau* furniture style was short-lived. Its importance is based on the fact that it was a rebellion against the excessive ornamentation of other styles of the time. The graceful lines of *Art Nouveau* furniture were based on flower forms.

**Traditional styles from England.** *Jacobean* furniture became popular during the reign of James I. The massive pieces of furniture were made of oak wood and often had twisted legs.

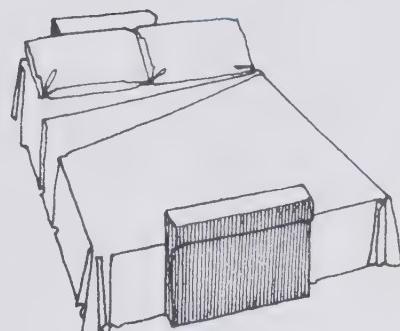
*Queen Anne* furniture is graceful and comfortable. Cabriole legs, 9-26, and carved fans and shells are characteristic of this style.

Several furniture styles became popular during the reigns of the three King Georges. Sometimes these styles are grouped together under the label *Georgian*. See 9-27. At other times, they are labeled according to their designers – Thomas Chippendale, the Adam Brothers, George Hepplewhite and Thomas Sheraton.

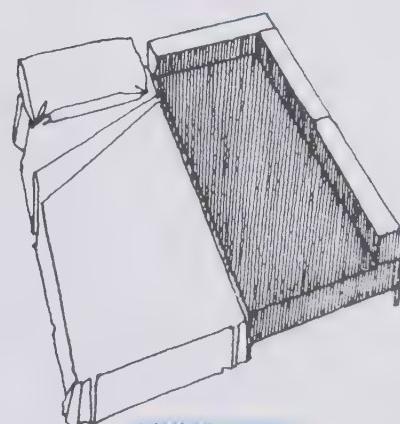
Gothic and Chinese influences were a part of *Chippendale's* designs. Chippendale was the first person to publish a book of furniture designs, and his designs spread around the world. Splat-back chairs and curved top edges on the backs of chairs and sofas were typical. Early Chippendale furniture had “s-shaped”



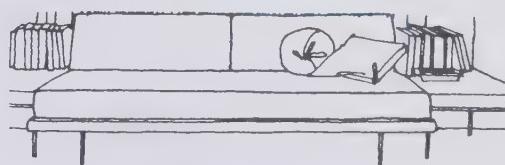
DIVAN BED



SOFA BED



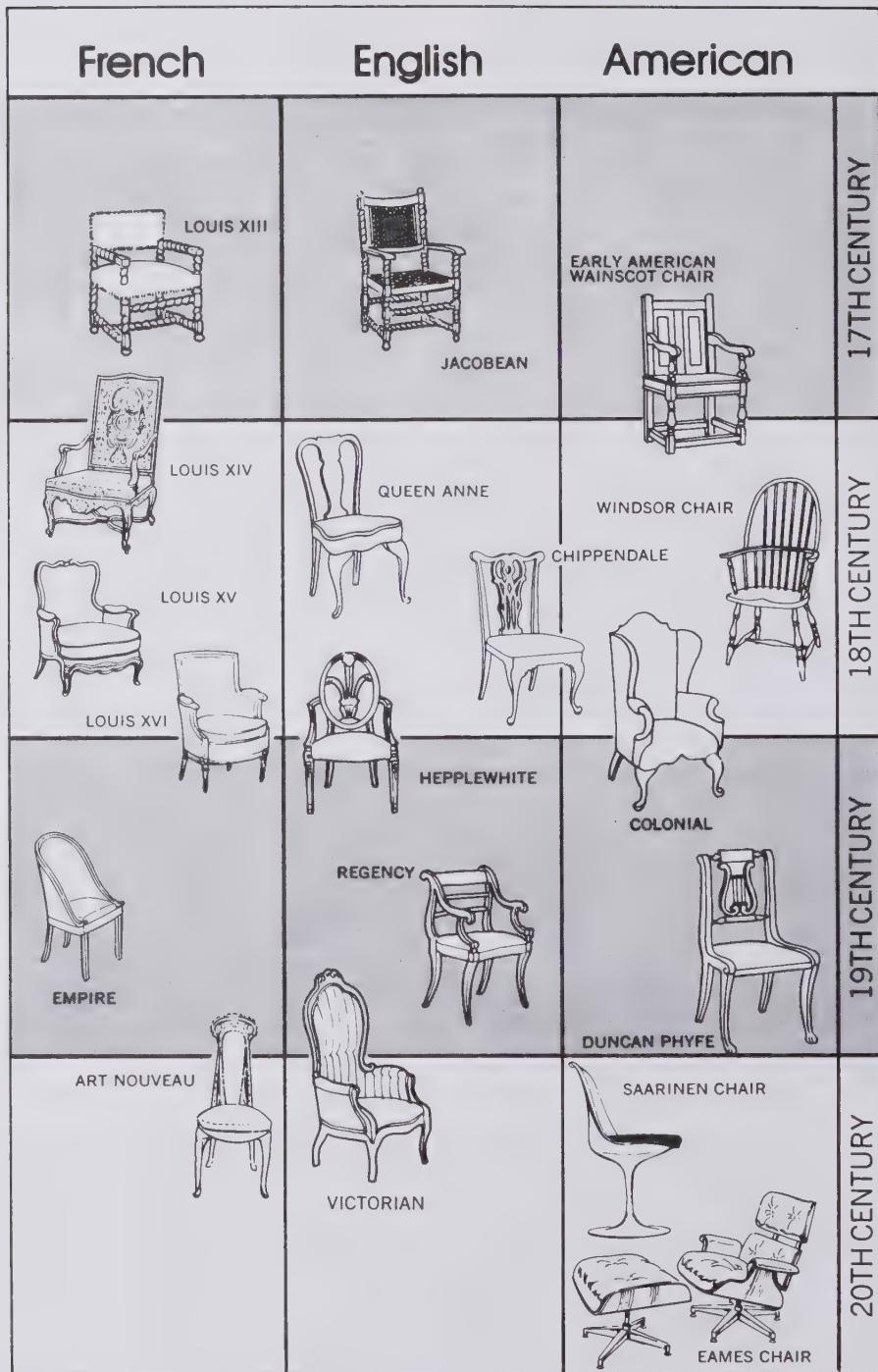
STUDIO COUCH



STUDIO LOUNGE

9-24 Extra sleeping space can be provided by dual-purpose sleep furniture.

SEARS CONSUMER INFORMATION SERVICES

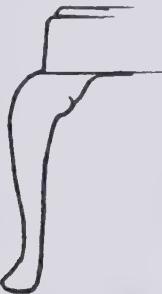


9-25 New styles of furniture are continually designed. Only a few remain popular through the centuries.

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legs with claw and ball feet, 9-28. Later, because of Chinese influence, his furniture had straight legs.

Furniture designed by the *Adam Brothers* was classic and symmetrical. The pieces had simple outlines, rectangular shapes and tapered, straight legs. Delicate carvings were also characteristic.

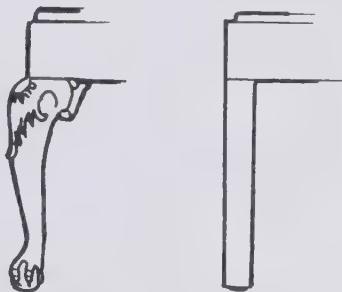


9-26 The cabriole leg is a characteristic of Queen Anne furniture. It has an "S-shaped" curve and a rounded knee.

*Hepplewhite* is most famous for his graceful chair designs. The backs of the chairs had shield, oval and heart shapes filled with delicately carved splats.

*Sheraton* designed furniture with delicate proportions, straight lines and slender, tapering legs. His chair backs were square.

The *Regency* furniture style is named after



9-28 Curved legs with claw and ball feet were characteristic of early Chippendale designs. His later designs had straight legs.

9-27 Splat-back chairs, straight legs, "S-shaped" legs, and curved top edges on chairs are characteristics of the Georgian style of furniture.



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the Prince of Wales who reigned as Regent for nine years. The style reflects an interest in the ancient cultures of Greece, Rome and Egypt. Bold, curved lines were dominant.

During the reign of Queen Victoria, the *Victorian* furniture style became popular. New machines could make detailed pieces of furniture quickly and easily. This led to the excessive use of ornamentation that was typical of the style. Other characteristics were massive proportions and dark colors.

**Traditional American styles.** The first settlers in America built sturdy, practical furniture. It was a simplified version of the Jacobean style furniture that was then popular in England. The Wainscot chair is an example.

The colonists used native woods such as maple, pine and oak. They began making furniture with less massive proportions. Ladder-back chairs, canopy beds and Windsor chairs became popular. See 9-29 and 9-30. These furnishings are generally called *Early American*.

Later, the *Colonial* style became popular. It was based on England's Georgian style. Graceful lines, "s-shaped" legs and comfortable forms were typical.

After the Revolutionary War, England's influence declined in all areas, including furniture styles. The *Federal* style became popular in America. It combined classic influences with patriotic symbols such as eagles and stars and stripes. *Duncan Phyfe* was a major designer of this period. He is most noted for the lyre motif he used for chair backs. Other characteristics of his designs are brass-tipped dog feet, curved legs and rolled top rails on the backs of chairs and sofas.

#### **Modern and contemporary furniture styles**

*Modern* furniture is comfortable, convenient and durable. It is designed according to the guideline that "form follows function." Thus, if the function of a chair is for sitting, it should be a comfortable place to sit. If the function of a table is to hold objects, it should be sturdy enough and large enough to hold them.

Unnecessary frills are avoided in modern pieces of furniture. This does not mean, however, that rooms must look boring. Look at the rooms in 9-31 and 9-32. The colors, fabrics and accessories add beauty and variety to the room. They enhance the simple lines of the furniture.

*Contemporary* furniture styles are the very latest designs. They take advantage of the newest materials and manufacturing methods. Plastics, metals, wood and glass are used to create an endless range of visual effects. Look back at the Saarinen chair and Eames chair in 9-25. The molded plastic of the Saarinen chair and the molded rosewood, vinyl cushions and chrome base of the Eames chair could not have been made a century ago.

Pieces of contemporary furniture have simple lines and forms. Geometric shapes such as circles, rectangles, cylinders and cubes are often used. The photographs in 9-33 show various pieces of contemporary furniture.

#### **The eclectic look**

Rooms do not have to be decorated with a single style of furniture. Interesting effects can



9-29 Ladder-back chairs, canopy beds and braided rugs were typical furnishings of the early colonists.

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9-30 Windsor chairs are part of the Early American furnishings in this room.

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THOMASVILLE FURNITURE

9-32 These modern furnishings have an Oriental influence. Notice the clean, smooth lines.

9-31 This room with modern furnishings provides comfortable and convenient living space.



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be achieved by mixing furnishings from different periods and countries. This decorating idea is called the *eclectic* look. Examples are shown in 9-34 and 9-35.

The furnishings in an eclectic room should be related in proportion. They should also be related in mood — either formal or informal. This will help tie the different parts together so the final effect is a pleasing scheme, not a jumbled collection.

Decisions concerning furniture are outlined in 9-36.

## CHOOSING ACCESSORIES

Accessories are those things which you can live without, but which make life more enjoyable. The accessories you use in your home are a reflection of your personality. Through your choice of accessories, you can show a preference for such things as seashells, antiques or Oriental objects. If one of your hobbies is collecting things, you can use the items in your collection as accessories.

Most accessories fit into one of two groups: functional and decorative. *Functional* accessories include pillows, ashtrays, lamps, mirrors and clocks. *Decorative* accessories vary widely. Some examples are plants,

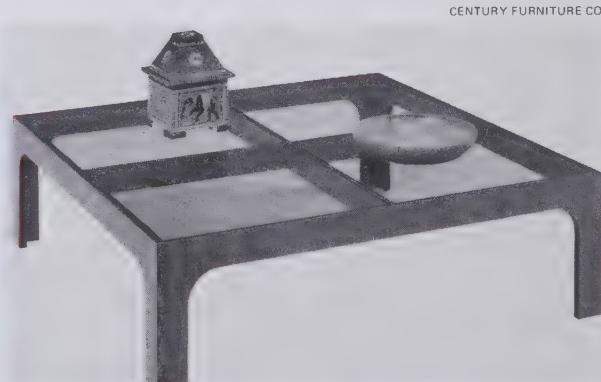


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**9-34** This eclectic look is achieved by mixing Queen Anne dining furniture with contemporary backgrounds. The adjoining living room has contemporary furnishings.



**9-33** Pieces of contemporary furniture are made of plastic, metal, wood and glass. They usually have geometric shapes.



flowers, pictures, wall hangings, handcrafted items and figurines. See 9-37.

Functional and decorative accessories are often used together. In 9-38, a clock (functional) hangs beside two plaques (decorative) to create an attractive grouping of accessories.

Some accessories are both functional and decorative. For instance, the pillows shown in 9-39 can be used as cushions, but they can also add beauty to a room.

Accessories should not be used just to fill up space. Each accessory in your home should be there for a purpose. It may be useful, beautiful or meaningful to you. If it does not fit any of these purposes, it does not belong in your home.

Accessories can enhance a room if they fit into the overall plan. The design of the accessory should blend with the design of the room in general. Another guideline for the use of accessories is that accessories that are used near each other should have something in common. It may be color, style or purpose.



**9-35** The modern style sofas look good with the other traditional furnishings in this eclectic room. They all work together to create a formal mood.

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This shared element will help tie the room's furnishings together.

Decisions concerning accessories are outlined in 9-40.

## CHOOSING MAJOR APPLIANCES

Major appliances account for a large part of a housing budget. This is especially true when you completely furnish a place or when you equip a new dwelling. See 9-41. If you

FURNITURE	
DECISIONS	RANGE OF AVAILABLE CHOICES
<b>Location</b>	In which room For what use Out of the way of traffic patterns Against which background areas
<b>Form</b>	Fixed or mobile Single-purpose or multipurpose Functional or decorative
Type	Traditional Modern Contemporary Eclectic
Style	Hardwood Softwood Metal Glass Fabric
Materials	Poor Adequate Superior
Structural quality	Initial Maintaining Replacing Financing
<b>Acquisition</b>	Process and cost

**9-36** Choosing furniture requires many decisions.



9-37 Decorative accessories can add to the design of any room.

CALIFORNIA REDWOOD ASSOC.



rent a dwelling that has major appliances in it, part of your rent goes toward the cost of the appliances.

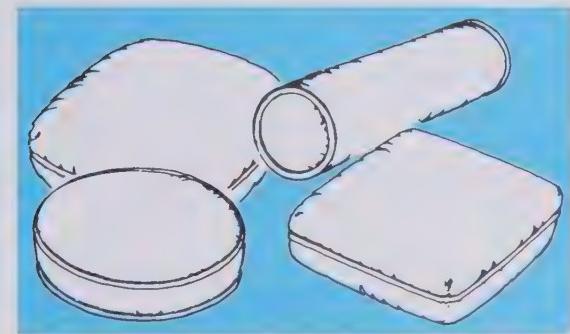
Careful planning will help you choose the appliance that is best for your needs and your budget. First, decide if you really need the appliance. Will you use it frequently? Does it have all the features you want? Does it have extra features you do not need? These extras will add to its price.

Consider the size of your living unit. How large should the appliance be? Which size will satisfy your living unit now and also in the near future?



NUTONE DIV. OF SCOVILL

9-38 Functional and decorative accessories can be used together.



9-39 Pillows can be both decorative and functional.

Will the appliance fit the space where it is to be placed? Can it be brought up stairways and through doors to reach the place where it will be used?

Does the appliance meet safety standards?

ACCESSORIES	
DECISIONS	RANGE OF AVAILABLE CHOICES
<b>Location</b>	In room In relation to other objects
<b>Form</b>	
Type	Functional or decorative
Style	Traditional Modern Contemporary Eclectic
<b>Acquisition</b>	
Process and cost	Initial Maintenance Replacing Financing

9-40 Decisions about accessories are usually fun to make.



QUAKER MAID KITCHENS

9-41 A fully equipped kitchen is a convenient but costly part of housing.

Electrical appliances should have the *Underwriters' Laboratories* (UL) symbol. If the symbol is on the body of the appliance, all parts of the appliance meet the UL standards. Gas appliances should be approved by the *American Gas Association*. Their Blue Star certification seal means that the appliance meets standards of safety, performance and durability.

Do you like the color of the appliance? Will it look good with the other furnishings in the room? See 9-42.

Do you have the proper electrical or gas connections to use the appliance safely? Major electrical appliances should have a three-prong plug. The third (round) prong is the grounding plug and should never be removed.

Is the appliance well-constructed? Is it from a reputable manufacturer? Is the instruction book thorough and easy to understand? Is after-sale service offered?

Does it have a full or limited warranty? Under a *full warranty*, you may have the item repaired or replaced free of charge (at the warrantor's option). You cannot be asked to do anything unreasonable to have it repaired or replaced. Under a *limited warranty*, you can be charged for repairs. You may have to mail the item back to the warrantor or take other steps to get repairs.

What is covered by the warranty — the entire product or only certain parts? Are labor fees included? How long does the warranty last?

Does the appliance fit your budget? The purchase price of an appliance is only part of its true cost. If you pay for it on an installment plan, you will also pay a finance charge. Other "hidden" costs include an installation charge, repair bills and bills for either gas or electricity.

## Refrigerators

*Refrigerators* are available in many sizes, styles and colors. A one-door refrigerator is designed to keep food cold, not frozen. It may have a small section that is colder than the rest, but its use is limited. It provides only

very short-term storage for commercially frozen foods, and it keeps ice cubes.

A variation of the one-door refrigerator is the compact refrigerator. It is suitable for rooms in college residence halls or small apartments. It can be purchased or rented at a fairly low price. It does not require any special wiring. It may be capable of freezing ice cubes, but it cannot be used to store frozen foods.

Most refrigerators made today are two-door models with a separate freezer section. The temperature in that section remains at about 0 deg. F (-17.8 deg. C). It is capable of freezing foods. The freezer section may be above, below or at the side of the refrigerator. See 9-43 and 9-44.

When shopping for a refrigerator, you should consider how much storage space you need and whether or not you need a separate freezer section. Space inside a refrigerator is measured in cubic feet or litres. A basic guideline is that every adult needs about 4 cubic feet (113 L) of refrigerator space and about 2 cubic feet (57 L) of freezer space. These amounts are for persons who shop once a week for food. If you shop more often, you will need less storage space.

Another consideration is the amount of kitchen space you have for a refrigerator. Measure the height, width and depth of the space you have. Take the measurements with you when you shop.

Notice which way you want the refrigerator door to open. It should open to face your best counterspace so you can add and remove food quickly and easily.

Refrigerators vary in the amount of defrosting they require. Some models must be defrosted by hand. Some defrost automatically. Others are frostless — frost does not accumulate. The frostless models are convenient, but they cost more. They also use more electricity.

Other special features of refrigerators include meat compartments with separate temperature controls, adjustable shelves, and ice and water dispensers in the door, 9-45. A checklist for refrigerators is shown in 9-46.



COPPES

9-42 Before you choose an appliance, measure the amount of available space and check the color scheme of the room.



WHIRLPOOL CORP

9-44 The freezer and refrigerator sections are sometimes located side-by-side.



SEARS, ROEBUCK AND CO

9-43 The freezer section is below the refrigerator in this model.



SEARS, ROEBUCK AND CO

9-45 Ice and water are available through the door in this refrigerator-freezer.

## Freezers

If a refrigerator-freezer does not provide enough storage space for frozen foods, you may want to buy a separate *freezer*. It can help you save money if you use it to store food purchased at low prices.

The size you need depends on the size of your living unit. A basic guideline allows about 6 cubic feet (170 L) for each person.

The two styles of freezers are *chest* and *upright*. Large, bulky packages are easier to store in a chest model, 9-47. Chest freezers use less electricity because less cold air escapes when the door is opened. A disadvantage of chest freezers is that they require more floor space.

Food is easier to see and remove in upright freezers. Only a small amount of floor space is needed, but upright freezers cost more to operate.

You can choose a freezer with either a manual defrost or frostless system. Frostless models are convenient, but they cost more to buy and to operate.

A checklist for freezers is shown in 9-48.

## Ranges

Many changes are being made in ranges. These changes are due to advances in technology and growing concern about energy conservation. You will have many factors to consider before choosing a range.

Your first decision concerns fuel. Your choice of either gas or electricity depends on the availability and cost of each.

*Electric ranges*, 9-49, have coils of wires through which electric current flows. This current provides the heat. The heating units are sometimes hidden under a smooth surface of glass-ceramic material, 9-50. This makes the rangetop easy to clean.

The heat in *gas ranges* is produced by the combustion process between gas and the oxygen in the air. The heat is controlled by regulating the flow of gas through a valve. More gas means higher flames and hotter temperatures. A gas range is pictured in 9-51.

To save energy, *convection* gas ovens have been developed. These ovens can cut cooking

times by about one-third and fuel consumption by almost one-half when compared to conventional gas ovens. The diagram in 9-52 shows how the convection gas oven works. Most of the heated air is recirculated inside the oven rather than being vented out into the kitchen. Because heated air is forced directly onto foods and is constantly in motion, baking and broiling can be done at lower temperatures for shorter times.

## CHECKLIST FOR REFRIGERATORS

- Does the refrigerator require defrosting?
- Are interior and door shelves adjustable for more flexible use of space?
- Is space available for heavy and tall bottles?
- Is interior well lighted?
- Does the refrigerator have a porcelain interior — best for durability and resistance to scratches, rust, and stains?
- Are shelves made of strong, non-corroding, rust-resistant materials?
- Are all interior parts easily removable and/or accessible for cleaning?
- Are door shelf retaining bars strong and securely attached?
- Does the meat pan have adequate ventilation and does it maintain proper cooling temperature?
- Is crisper space adequate?
- Is crisper tray designed to keep moisture in?
- Is the freezer section easy to reach, use, clean and organize?
- Do the exterior doors have magnetic gaskets on all edges?
- Is refrigerator easy to move for cleaning?
- Does refrigerator have switch to turn off door heater when not needed to prevent condensation?
- Is refrigerator's energy consumption figure available?

SEARS CONSUMER INFORMATION SERVICES

9-46 Consider these points before choosing a refrigerator.



WHIRLPOOL CORP.

9-47 Chest freezers provide energy-efficient storage space for frozen foods.



TAPPAN

9-49 Heating coils on electric ranges are of different sizes to fit both large and small pans.

#### CHECKLIST FOR FREEZERS

- Will model fit your floor space and weight limitations?
- Will the type of opening be convenient in its location?
- Are shelves and/or baskets adjustable?
- Are all sections readily accessible?
- Is the interior well lighted?
- Does it have a safety signal light to let you know that power is on?
- Is the freezer frostless? If not, does it have a fast-defrost system?
- Does it have easy-to-read and accessible controls?
- Does it have magnetic gaskets to seal cold air in more completely?
- Does it have a power-saver switch to allow for lower use of energy when activated?

SEARS CONSUMER INFORMATION SERVICES

9-48 Consider these points before choosing a food freezer.



AMANA

9-50 Smooth-top electric ranges are attractive and easy to clean.

**Styles of ranges.** Ranges come in many styles and sizes, 9-53. Your choice depends on the capacity you need and the space you have.

**Free-standing** models are the most common. They offer the most options in sizes, colors and features. They may have an oven below the cooking surface, at eye level or both. They may stand alone or be between counters for a built-in look.

**Slide-in** models fit snugly between two base cabinets. Chrome strips are often used to cover the side edges and provide a built-in look. The oven is below the cooking surface.

**Built-in** models separate the cooking surface from the oven. This allows flexible kitchen arrangements. The surface units are installed in a countertop. The oven is installed in a wall or specially made cabinet. See 9-54.



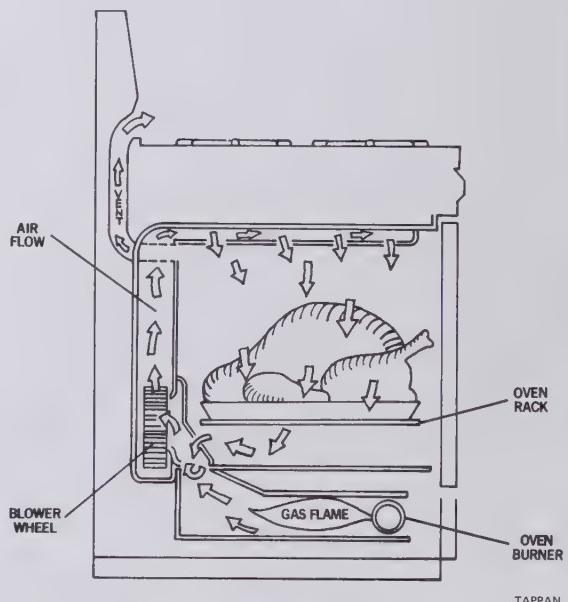
9-51 This gas range has two ovens — one above and one below the rangetop.  
TAPPAN

**Special features.** Both gas and electric ranges are available in split-level styles with a microwave oven on top, 9-55. Some electric ranges have a single oven that works as both a conventional and a microwave oven, 9-56.

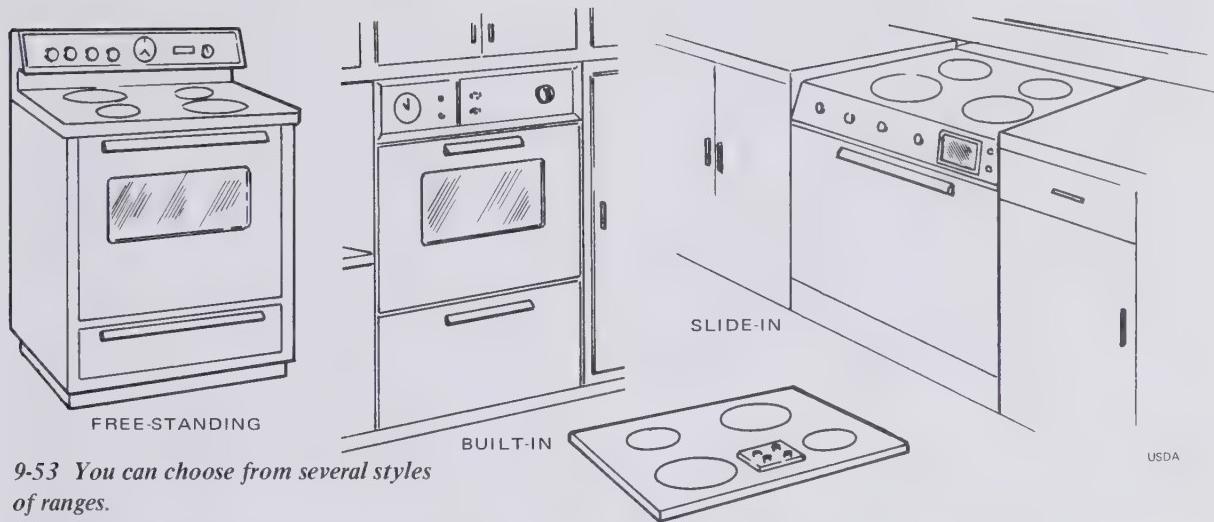
**Hoods,** 9-57, are a useful part of any range. They are used over the cooking surface to help vent heat and odors away from the kitchen.

**Self-cleaning ovens** can be set at extremely high temperatures to "burn" soil away. Only a little ash remains to be wiped clean. Because such high temperatures are reached during cleaning, these ovens have extra insulation. This helps to save energy during normal baking periods. The self-cleaning feature adds to the price of the range. But the cost of operating the cleaning cycle is less than the cost of chemical oven cleaners.

**Continuous-cleaning ovens** have a special coating on the oven walls. Food spatters on the walls are oxidized over a period of time during the normal baking process. These cost less than self-cleaning ovens. However, most



9-52 In a convection oven, heated air is recirculated inside the oven.  
TAPPAN



9-53 You can choose from several styles of ranges.



9-54 This convenient kitchen has a built-in oven and rangetop. A microwave oven is also shown at right.



9-55 This range offers a microwave oven on top, and a conventional electric oven below.



9-56 This oven works as a conventional electric oven or as a microwave oven. It can also combine both cooking methods at once.

LITTON



9-57 Hoods help vent heat and odors away from the kitchen.

WHIRLPOOL CORP.

## CHECKLIST FOR RANGES

- Is range suitable for cooking needs and kitchen space?
- Is cooktop height convenient and comfortable for user?
- Are cooktop burners or units an adequate size for pans to be used?
- Is oven capacity adequate to meet regular cooking needs?
- Are controls placed for convenient and safe use?
- Are control settings and numbers easily read?
- Is range designed to simplify cleaning? (Smooth, wipeable background; removable burners or units; removable liners or self-clean feature; absence of grooves, crevices.)
- Does range offer features that are important to family needs and use?
- Does gas range have pilot-free electronic ignition?

9-58 Consider these points before choosing a range.

SEARS CONSUMER INFORMATION SERVICES



9-59 Microwave ovens can be used to cook large pieces of meat or to simply warm up some leftover vegetables.

AMANA

people find them less effective, and they do not have the extra insulation.

Other special features to consider are clocks, timers, programmed cooking cycles, thermostatically controlled surface units, oven rotisseries and surface units that can be replaced with grills, griddles or cutting boards.

Study the checklist for ranges in 9-58.

### Microwave ovens

*Microwave ovens*, 9-59, heat foods in one-fourth to one-half the time usually needed. They can save up to 75 percent of the energy used by conventional electric ranges for certain foods.

*Microwaves* are absorbed by food. This causes food molecules to vibrate against one another. The friction that is produced creates the heat that cooks the food.

Glass, paper and plastic can be used as cooking containers because microwaves pass through them. Metal containers should not be used since they reflect microwaves.

*Single power* microwave ovens have time as their only variable. The microwave power remains constant. These ovens can defrost and heat food.

*Variable power* microwave ovens have several different power settings for defrosting, cooking and warming foods. See 9-60.

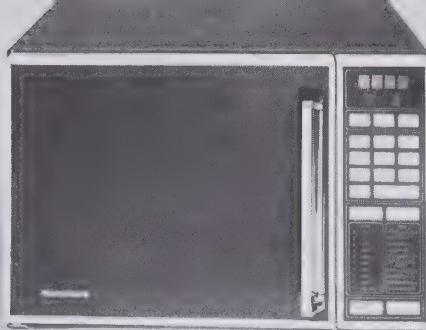
**Special features.** Because microwave ovens are still fairly new, many features are continually being added to them. Some of the available features are timers, digital clocks, programmed cooking cycles, browning dishes and temperature sensors that shut off the oven automatically when the food reaches a preset temperature. Size is another variable. Some new ovens are large enough to handle several foods at once, 9-61.

Study the checklist for microwave ovens that is given in 9-62.

### Dishwashers

The size of your living unit and the amount of time you have help determine your need for a dishwasher. This appliance can save you time and energy.

Another advantage of a dishwasher is that



SEARS, ROEBUCK AND CO

9-60 *Variable power microwave ovens can be programmed to produce just the right amount of power for just the right length of time.*



LITTON

9-61 *An entire meal can be prepared at once in this large microwave oven.*

### CHECKLIST FOR MICROWAVE OVENS

- Is microwave oven cavity large enough for your needs?
- Does it have the kind of power settings you need?
- Is there a signal that tells when microwave oven finishes cooking and shuts off?
- Does the timer have enough minutes to allow you the flexibility you need?
- Are the controls solid state or mechanical?
- Does a cookbook come with the microwave oven?

SEARS CONSUMER INFORMATION SERVICES

9-62 *Consider these points before choosing a microwave oven.*

it can get your dishes cleaner than you can by hand. It uses hotter water and stronger detergents. It can also dry dishes so they don't have to be wiped with towels that may carry germs.

Most dishwashers are built-in styles as shown in 9-63. Other models are portable. They are on roller casters so they can be moved easily from storage to the sink.

Dishwashers work in cycles. For instance, a normal cycle for average loads usually consists of a prerinse, one or more washes and rinses, and a drying period. The cycles vary in different dishwashers.

**Special features.** A cutaway view of a dishwasher is shown in 9-64. It shows some of the special features to consider.

Look for a dishwasher with an adjustable upper rack. This makes it possible to wash large or odd-size items.

Newer models offer energy-saving features such as a cool drying cycle. This can save up to one-third the electricity used in a normal drying cycle.

Study the checklist in 9-65 before choosing a dishwasher.

### Trash compactors

*Trash compactors* compress household trash to about one-fourth of its original volume. The trash is put into heavy-duty paper bags that are lined with plastic.

Compactors will handle almost any kind of trash such as bottles, tin cans, plastic cartons, and food scraps. They will *not* handle flammable materials and aerosol cans. These should be discarded separately.

Both free-standing and built-in models are available, 9-66.

**Special features.** Look for a trash compactor that has a full-size drawer opening for easy loading. A foot-operated bar allows you to open the door when your hands are full.

A safety lock prevents the unit from operating when the door is open or when a bag is not in place.

The interior should be easy to clean, and some models have an automatic deodorant feature.

### Food waste disposers

The smell and mess of food scraps are easily eliminated by a *food waste disposer*. This appliance fits below a sink. It catches and grinds all types of food scraps. It is connected to the city sewer or drained into a septic tank.

Both "batch-feed" and "continuous-feed" models are available. In "batch-feed" models, the food is placed in the grinding chamber. Then cold water is turned on and the lid is put in place. When the food has been ground, the water is turned off and the lid is removed. In "continuous-feed" models, food is added to the disposer as it is running.

**Special features.** A cutaway drawing of a food waste disposer, 9-67, shows some of the available special features. Notice the sound insulation, easy installation and rust-proof parts. Look for these features when you shop for a disposer.



9-63 This built-in dishwasher is attractive and convenient.

SEARS, ROEBUCK AND CO

**1** 3-Level Washing System — 53 vigorous jets of water thoroughly clean dishes. This model has a full-sized stainless steel spray arm at the top and bottom as well as a center spray nozzle.

**2** Unique Power Module — Single, integrated unit performs all functions of recirculating, filtering, and draining wash and rinse water.

**3** Exclusive Self Cleaning Micro-Mesh Filter — removes food particles from the water so that only filter-cleaned water is sprayed on dishes.

**4** Circular Strainer — Catches large food items or foreign objects that could clog the drain system.

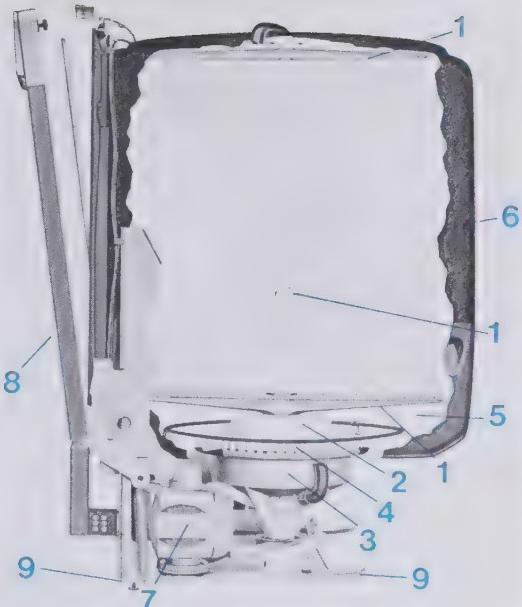
**5** Zirconium Porcelain Enamel Tub — Specially formulated to be acid and alkali-resistant as well as long lasting.

**6** Insulation — Over 10 lb. of sound-deadening asphaltic insulation.

**7** 1/3 H.P. Reversible Motor — Powers pumps to energize the scrubbing jets of water and to provide efficient draining.

**8** Front Panels and Cabinets are made of Premium Quality Zinc-Coated Steel with Quad-Coat Protection.

**9** Leveling Legs — All four leveling legs are individually adjustable for custom fit — back legs can even be set from the front.



MAYTAG

9-64 A cutaway view of a dishwasher.

#### CHECKLIST FOR DISHWASHERS

- Are the tub and door lining materials made of porcelain enamel?
- Does the wash system have two levels? (A single system takes a great deal of care in loading.)
- Will it hold at least 10 place settings? Pots and pans?
- Does it offer more than one cycle, such as rinse/hold or prerinse cycle?
- Is an automatic wetting agent dispenser provided?
- Is the dishwasher insulated to eliminate excessive noise and heat?
- Does it have forced air drying? A no-heat drying cycle?
- Does it have an energy saver where the heating element is partially or completely off during some cycles?

SEARS CONSUMER INFORMATION SERVICES

9-65 Consider these points before choosing a dishwasher.



TAPPAN

9-66 Built-in trash compactors are convenient. They require only a little floor space.

## Automatic washers

Size is one of the most important variables in automatic washers. If your living unit is small, a compact machine may be best for you, 9-68. Some are permanently installed, and others are portable, as shown in 9-69. Some have only the basics: washing, rinsing and spin-drying. Others have the features of full-size machines.

To suit a variety of fabrics, washers have several different cycles such as regular, permanent press and delicate. All cycles have the same basic steps: fill, wash, rinse and spin. They vary in the length of time, speed of agitation, water temperature and number of rinses.

A cutaway drawing of an automatic washer is shown in 9-70. It shows you the basic structure of the appliance.

**Special features.** Some washers save water

by letting you choose from two or more water levels, according to the load size. Another feature that saves water is called the "suds-saver." It retains the wash water so it can be reused. (The rinse water is always fresh.)

Deluxe models have dispensers which release detergent, bleach and fabric softeners into the wash water at the right time.

Look at the checklist in 9-71 before buying an automatic washer.

## Dryers

*Automatic clothes dryers* are often bought at the same time as washers. They are usually available as a matching set. See 9-72.

Dryers can be operated by either gas or electricity. Compare installation and operating costs as well as purchase prices before you buy.



9-67 A cutaway drawing of a food waste disposer.

### 1 Sound-silencing grinding chamber

Unique design with stainless steel liner absorbs vibration and noise. Thick, tough and resilient, it's unaffected by abrasion, jagged wastes or rust.

lery steel with hardened tips. Swivel mounted on high-speed disc to swing away from food wastes that could cause jamming. Polyurethane impeller arm cushions absorb noise.

### 2 Auto-start lid

Just drop it into place and the disposer starts automatically. Remove to stop. Turn over to use as a drain or stopper. Batch feed models only.

### 6 Rind positioner

Works with jam-resistant impeller arms to move food wastes into position.

### 3 "QuikConnect" mounting

Save time and money with easy to install "Quik-Connect." It's quiet too, thanks to a tough durable polymer mounting neck that absorbs noise and vibration.

### 7 Two fibrous waste cutting blades

Slash celery, corn husks and any other stringy wastes into tiny bits.

### 4 Nicron shredder ring

Grinds to uniform small size all types of food waste from celery to the hardest bones. Made from Nicron, one of the hardest known metals.

### 8 Positive pressure water seal

Protects against water leaks into the motor area, the biggest cause of disposer failure.

### 5 Jam-resistant

impeller arms  
Made of high-strength cut-

### 9 Corrosion resistant drain chamber

Unaffected by food wastes or strongest everyday washing compounds. Made from glass coupled polypropylene material that is virtually indestructible.



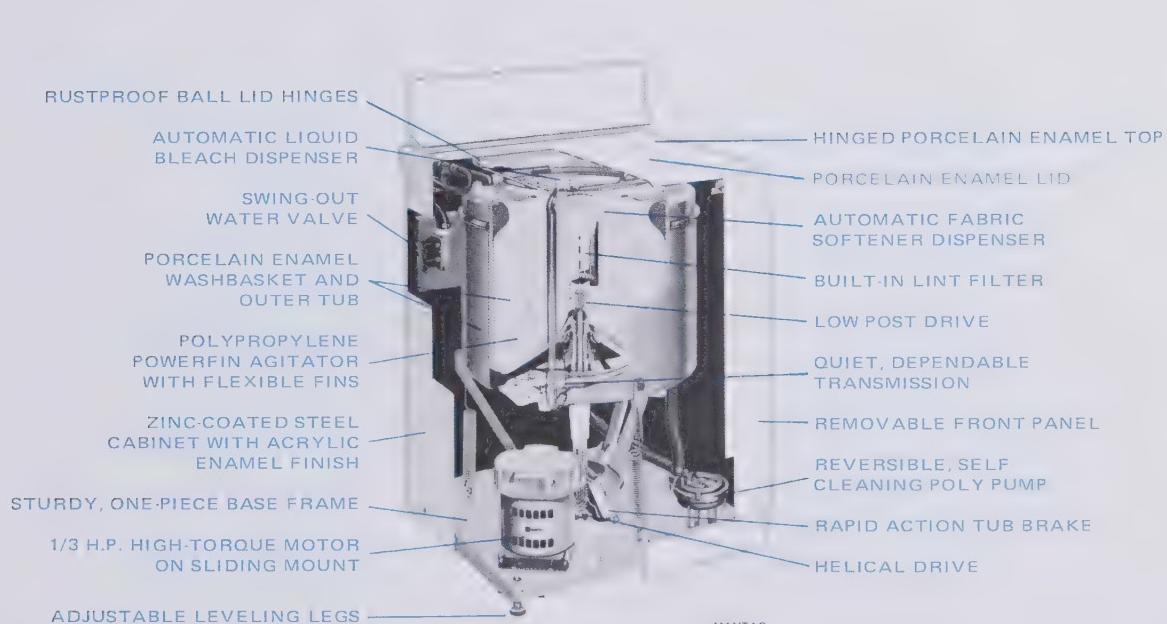
**9-68** Compact washers and dryers are great for small living units or for people with limited space.

WHIRLPOOL CORP.



**9-69** Portable automatic washers can be rolled over to the sink and hooked up to the faucet.

SEARS, ROEBUCK AND CO.



**9-70** Automatic washers are complex appliances. Good quality construction is important.

MAYTAG

The dryer you choose should be large enough to hold and dry a full load from your washer. Some construction features you should consider are shown in the cutaway drawing in 9-73.

**Special features.** Basic dryer models have a pre-set temperature which is safe for most fabrics. The drying time is the only variable.

More expensive machines have both time and temperature settings. You can set the temperature at high, medium, low, permanent press (which allows clothes to tumble without heat at the end of the drying time), and air-only (which has no heat and is used to fluff items).

Deluxe models have a moisture-sensing system. You set the control for the degree of dryness. The dryer shuts off when clothes reach the selected dryness.

Another feature of deluxe models guards against wrinkles. If you do not unload the dryer as soon as the cycle ends, it tumbles the

#### CHECKLIST FOR AUTOMATIC WASHERS

- Will the washer fit your space limitations?
- Does the washer have a self-cleaning lint filter?
- Is a water level selector provided?
- Is a water temperature selector provided?
- Is more than one cycle available including a pre-soak cycle? A permanent-press cycle? A knit cycle? A delicate cycle?
- Does it have an off-balance switch that stops machine and signals when load is unbalanced?
- Are bleach, fabric softener, and detergent dispensers offered?
- Is an optional second rinse selector provided?
- Has porcelain enamel been used for the tub and lid?
- If a portable compact model, does it have an agitator and single tub for wash, rinse, and spin cycles?
- If a portable compact model, does it connect to sink faucet for automatic filling?

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**9-71 Consider these points before buying an automatic washer.**



WHIRLPOOL CORP.



MAYTAG

**9-72 Automatic washers and dryers are often purchased in pairs.**

clothes without heat for a few seconds every five minutes.

Look at the checklist for dryers in 9-74.

### Other appliances

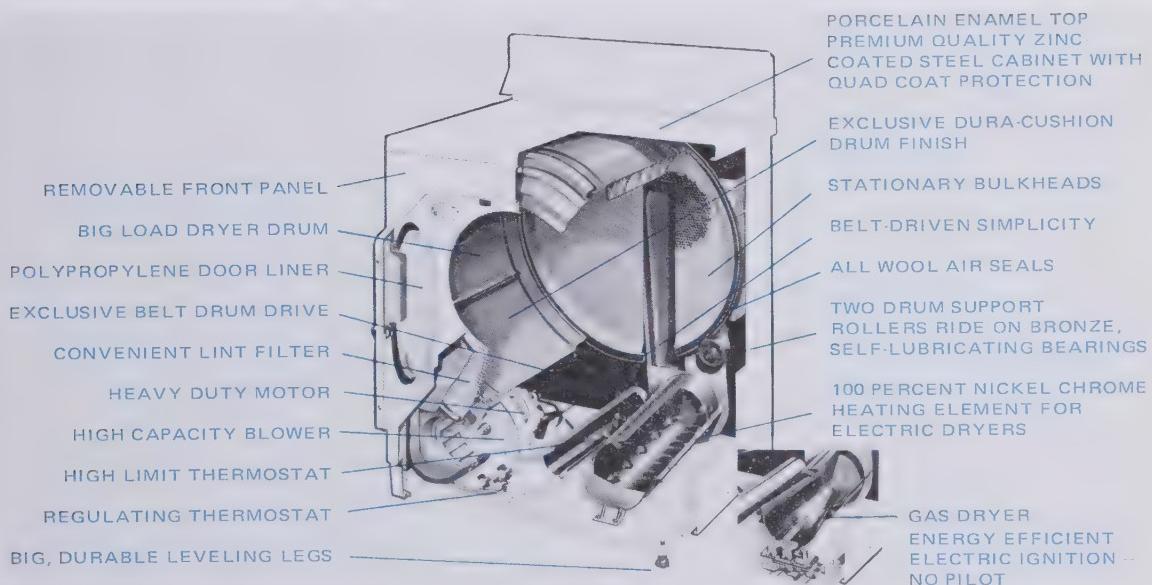
Several household appliances have been discussed in this chapter, but there are many more. The procedures for choosing them are much alike. The first step is always to determine your needs and your resources. Then do some comparison shopping. Compare construction details, warranties and prices. Learn about all the latest features. New developments are always being made, even in "standard" appliances such as vacuums. See 9-75. Decide which features you want and can afford. Then you can be confident that your final choice will be a wise one.

### CHECKLIST FOR DRYERS

- Is lint trap conveniently placed for ease in removing, cleaning, and replacing?
- Is there an automatic pilot light or electronic ignition on gas dryer?
- Is control panel lighted? Interior lighted?
- Is there a finish signal — buzzer or bell at end of drying period?
- Is there a safety button to start dryer?
- Does dryer offer one heat setting meant for use on most fabrics?
- Does dryer offer selection of temperatures?
- Does it have an automatic sensor to prevent over-drying?
- Does it offer a wrinkle-guard feature? An air-only no-heat setting?
- Does it give a touch-up cycle to remove creases in dry clothes?

SEARS CONSUMER INFORMATION SERVICES

**9-74 Consider these points before choosing a dryer.**



**9-73** Although you cannot see construction details of an appliance you buy, they determine its quality.



NUTONE DIV. OF SCOVILL

9-75 This central cleaning system is ducted to the outside. It is quiet and convenient to use. The heavy machinery stays in one place. Only the hose and end piece are carried from room to room where they are connected to special outlets.



# *to* Know

box springs . . . butt joint . . . coil springs . . . contemporary furniture styles . . . corner blocks . . . decorative accessories . . . double dowel joint . . . dovetail joint . . . eclectic . . . flat springs . . . foam mattress . . . functional accessories . . . hardwood . . . innerspring mattress . . . knitted fabrics . . . modern furniture styles . . . mortise and tenon joint . . . nonwoven fabrics . . . softwood . . . solid wood . . . tongue and groove joint . . . traditional furniture styles . . . veneered wood . . . warranty . . . wood grain . . . woven fabrics

# *to* Review

Write your answers on a separate sheet of paper.

1. List three ideas to help you get started choosing your own furniture.
2. True or False. Most good furniture is made of solid hardwood.
3. Name four ways wood furniture is joined.
4. Most upholstery fabrics are:
  - a. Woven.
  - b. Nonwoven.
  - c. Knitted.

5. Compare flat springs and coil springs in upholstered furniture. Consider both comfort and cost.

6. Describe two types of dual-purpose sleep furniture.

7. Which one is NOT a traditional furniture style?

- a. Louis XV.
- b. Chippendale.
- c. Colonial.
- d. Saarinen.

8. Furniture styles that take advantage of the latest materials and manufacturing methods are called \_\_\_\_\_.

9. Describe an eclectic room.

10. Name two symbols that assure you that an appliance has met safety standards.

11. Explain the difference between a full warranty and a limited warranty.

12. Which style of freezer is more energy-efficient?

- a. Upright.
- b. Chest.

13. Describe how a convection gas oven works.

14. How is heat produced in a microwave oven?

15. List two special features that are available on some automatic washers.

such as plain weave, twill weave, satin weave and pile weave. List characteristics of fibers they contain.

3. Find and label pictures of various furniture styles.

4. Choose a furniture style and write a report about it. Include illustrations.

5. List some of the accessories in your home. Note which ones are functional and which ones are decorative.

6. Look through magazines and find rooms with the eclectic look.

7. Plan a study trip to a furniture store. Prepare a list of questions to ask your tour guide about furniture construction and furniture styles.

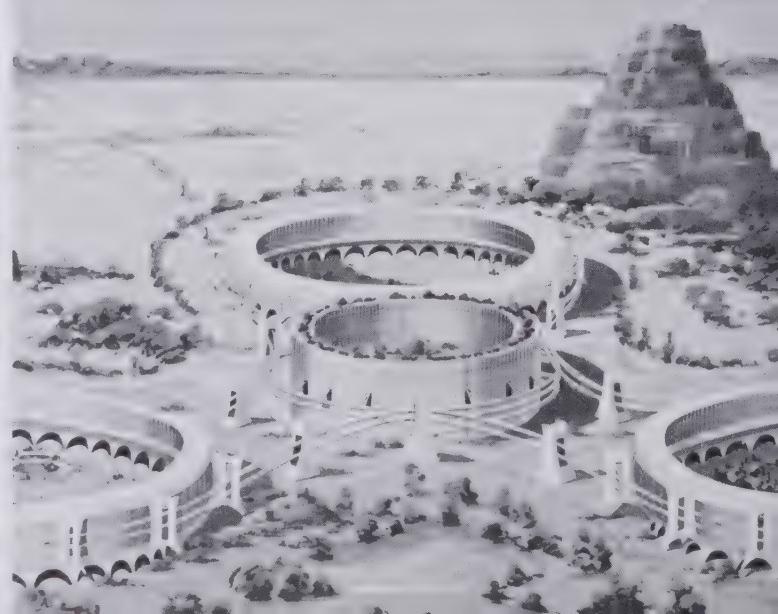
8. Do some comparison shopping for major appliances. Compare sizes, features and prices. Use the checklists given in this chapter. Compare your findings with those of other students.

9. Make a list of the major appliances in your home. Check those for which you can find a warranty and instruction booklet. List the kinds of information they give.

# *to* Do

1. Examine wood furniture in your home to find out how many different types of joints are used.

2. Collect samples of fabric suitable for upholstery. Label them as woven, nonwoven and knit. Divide them into subclasses



# *Progress in housing*

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## **10 Evolution of exteriors, 252**

Cultural influence, American Indian, Spanish, Swedish, Dutch, French, English, Greek Revival, Traditional vs. modern vs. contemporary designs, Housing designers

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## **11 Housing needs today, 269**

Era of industry, The new city life, The creation of slums, Slum clearance projects, The move to the suburbs, Rural housing, Era of automation, Housing a changing people, Computer-matched housing, Controlling housing environments

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## **12 Housing for tomorrow, 281**

Planned communities, Housing in outer space, Housing under the ground, Housing on and under the water, Materials and methods for housing, Reducing waste in housing, Environmental control, The need for fuel, Conserving energy, Noise pollution, Visual pollution

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## **13 Careers in housing, 297**

Career clusters, Job descriptions, Professional level positions, Mid level positions, Entry level positions, Career ladders, Qualities for success, Job skills, Personal qualifications, Working conditions

*Many changes are taking place in the field of housing. Problems of the past are being corrected, and exciting steps are being planned for the future.*

## *Evolution of exteriors*

*After reading this chapter, you will be able to recognize several different exterior house styles of the past and present. You will be able to discuss the background of these styles and the possibilities for future styles. When you are faced with the choice of an exterior style, you will be able to make a wise decision.*

**E**ach national or racial group has a *cultural heritage*. Because the United States has such a large mixture of peoples, it is rich in cultural heritage. Throughout the history of this country, ideas from many cultures have influenced the exterior designs of dwellings.

### **American Indian**

Cultural influence can be seen in the dwellings of Indian tribes. The Navajos of the Southwest live in eight-sided *hogans* that are usually made of logs and mud. The door of a hogan always faces east as a matter of religious belief. In Taos, New Mexico, Pueblo Indians live in an apartment-type community. See 10-1. The basic design used in their *adobe* dwellings is copied in houses throughout the country, 10-2. The boxy construction, flat roof and projecting roof beams are typical characteristics.

### **Spanish**

The *Spanish* house style is pictured in 10-3. It is widely used in the South and Southwest where the climate is warm and dry. The overall design is asymmetrical. Other characteristics are a red tile roof, an enclosed patio, arch-shaped windows and doors, wrought iron exterior decor and stucco walls.

*10-1 Pueblo Indians live in these dwellings built of adobe or baked mud.*



*10-2 Modern versions of adobe dwellings use stucco or brick in place of adobe.*



HOME PLANNERS, INC.

*10-3 This modern version of a Spanish style house copies many features of old mission churches and houses of Southern California.*



HOME PLANNERS, INC.

(Stucco is a type of plaster applied to the exterior walls of a house.)

### Swedish

The “All-American” *log cabin* was actually created in Sweden. It was a popular style throughout the period of the American frontier. It is still popular in undeveloped wooded areas.

The typical log cabin is built of unfinished logs. It is a one-story, rectangular building with few windows. It has a gable roof. (Roof styles are pictured in 10-4.)

### Dutch

Early Dutch settlers left their mark on colonial architecture with what is known as the *Dutch Colonial*. See 10-5. This style was not copied from houses in Holland. The Dutch created it after they came to America. The first Dutch Colonial houses were built in Pennsylvania and New York. They were often built of fieldstone or brick, but sometimes wood was used. They had a gambrel roof with

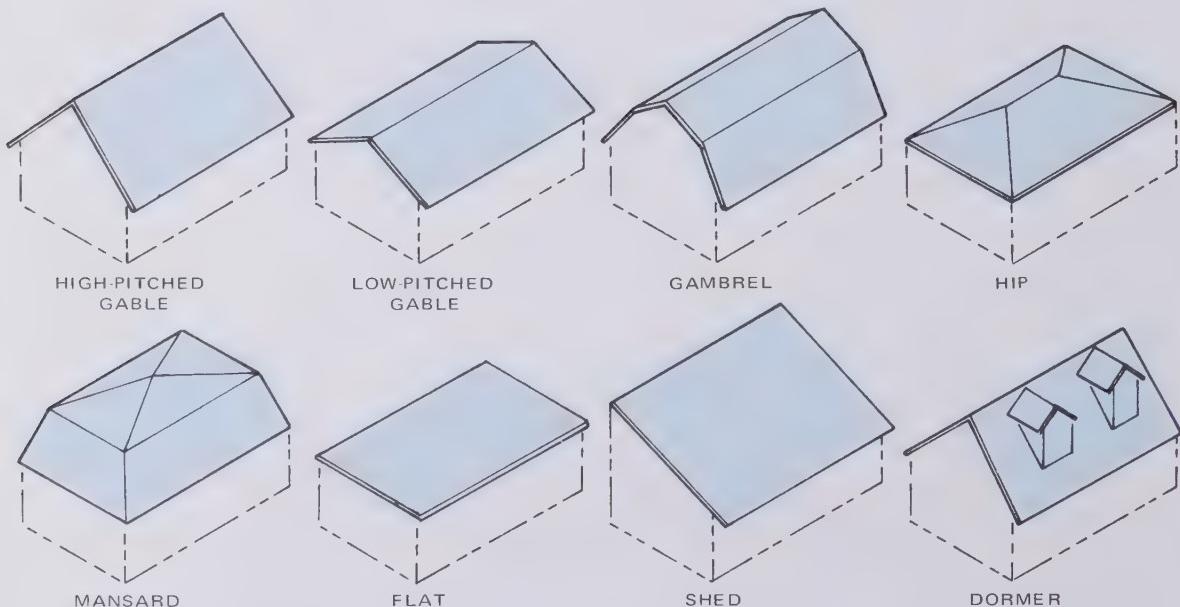
eaves that flared outward. Sometimes the flared portion of the roof extended out over an open porch. It became known as the “Dutch kick.”

Other characteristics of the Dutch Colonial are a central entrance, a chimney that is not centered, dormers in the second story and windows with small panes.

### French

The house pictured in 10-6 shows French influence. The *Mansard* roof is a variation of the gambrel roof. It was designed by a French architect of the same name. When used on detached single-family dwellings, the roof continues all around the house. When used on commercial buildings, the Mansard roof may be used only on one or two sides. Dormers often project from the steeply pitched part of the roof.

French influence is also seen in the house style called *French Provincial*. See 10-7. This style was introduced to New Orleans and became popular all over the country.



10-4 Roof styles have a great effect on the overall exterior design of buildings.

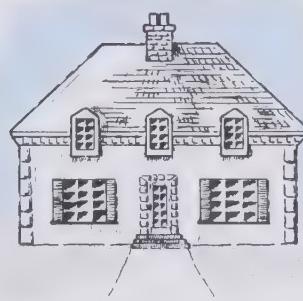
A French Provincial house can be as tall as two-and-one-half stories. It has a delicate, dignified appearance and is usually symmetrical. The windows are a dominant part of the design. The tops of the windows break into the eaves line. A modern adaptation of the French Provincial is shown in 10-8.

### English

Although exterior house designs were influenced by many cultures, England's influence was the greatest. This is because the history of the United States is so closely tied to England. During the decades that England ruled the colonies, its influence was felt in all



10-5 The outstanding characteristic of the Dutch Colonial is a gambrel roof which flares at the bottom.



10-7 French Provincial houses are usually symmetrical with a formal appearance.



10-6 The main part of this house has a Mansard roof. This steeply pitched roof style originated in France.

L.F. GARLINGHOUSE CO., INC.

phases of life, including housing. English influence is so closely related to the colonists' own ideas that separating house styles into "English" and "American" groups is difficult. Studying them together is easier.

### **English/American**

When the first settlers arrived in America, they lived in crude caves and huts. As soon as they had the necessary resources, they built dwellings that satisfied more of their needs and values. Because of the harsh climate, they found they needed dwellings that had sturdy walls, steep roofs with shingles to shed rain and snow, large chimneys to accommodate large fireplaces and small windows to help keep heat inside. The historic reconstruction at Plimoth Plantation near Plymouth, Massachusetts, duplicates some of the early dwellings. See 10-9.

Most of the people in the early history of America were farmers. The life-style of these agrarian (farm) people was simple. This was reflected in their housing. Houses, especially those in New England, were small and far

apart. Living units sometimes consisted of more than one generation, so the small houses could be crowded.

These houses were alive with change. Families did not move because they needed a larger or better house. They adapted their house to fit their new situation. Thus, the house became a living, changing thing reflecting the growth, success and attitudes of its owners.

The earliest homes were simple one-room buildings with a wooden or stone chimney at one end. As the family grew larger and/or prospered, additions were built. The first addition to be made was a second room, as large as the first. It was added next to the wall with the chimney. See 10-10. This is how the *Cape Cod* house design was created.

As shown in 10-11, the traditional Cape Cod is a small, symmetrical, one-and-one-half story house with a gable roof. It has a central entrance and a central chimney with several fireplaces. The eaves line of the roof is just above the first-floor windows. The windows usually have shutters.



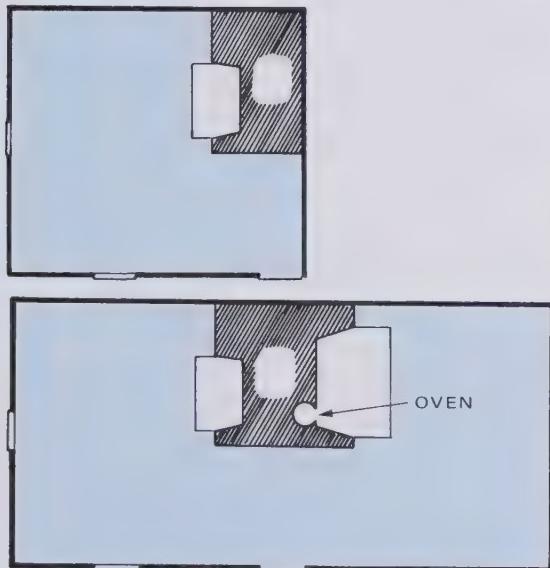
L.F. GARLINGHOUSE CO., INC.

*10-8 This modern house  
has many characteristics of the  
French Provincial style.*

When more space was needed, the loft area of the Cape Cod was expanded and made into finished bedrooms. Openings were cut in the roof for the construction of dormers which add light and air to the second story.



10-9 A view of Plimoth Plantation shows the reconstructed village of the early colonists.



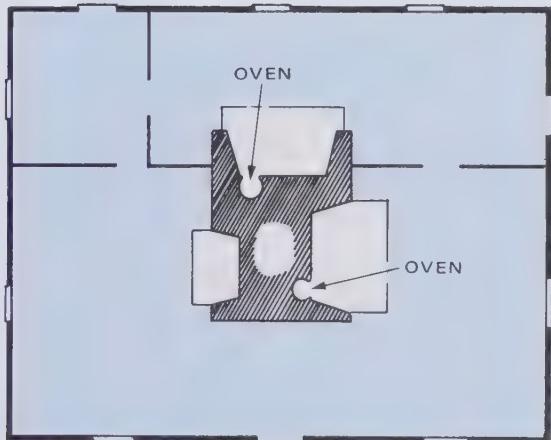
10-10 When a second room was added on the other side of the chimney, the result was the Cape Cod house.

Another way to extend the space of the basic Cape Cod design was to add a lean-to section to the back. See 10-12. This created the *Saltbox* house design pictured in 10-13. The name Saltbox comes from the shape of the boxes in which salt was stored at that time.

A Saltbox house is two or two-and-one-half stories high. It has a steep gable roof that extends down to the first floor in the rear. A



10-11 The Cape Cod is a one-and-one-half story house with a gable roof and central entrance.



10-12 With a lean-to section added to the rear of the house, the basic Cape Cod became a Saltbox house.

large central chimney and large windows with small panes of glass are typical characteristics.

A later development was the *Garrison Colonial*, 10-14. The name comes from early garrisons or forts. Like the houses named after them, they had an overhanging second story. The overhang allowed additional space on the second floor without having to dig larger foundations. It also had a cantilever effect so that second story floor joists did not sag in the middle. (Joists are the beams that are set on edge to support flooring.)

The overhang is always on the front of the house and sometimes extends to the sides and rear. Carved drops or *pendants* below the overhang provide ornamentation. Other characteristics of the Garrison Colonial are a symmetrical design, a steep gable roof and windows that have small panes of glass.

**Later developments.** As colonial life prospered, better houses were built. A popular style was the *Georgian*. It was adapted from English architecture. It is called Georgian because it was popular during the era when the Kings George I, II and III ruled England.

Two Georgian houses are shown in 10-15 and 10-16. They have simple exterior lines, a dignified appearance and a symmetrical design. The windows have small panes of glass.

The roof style is either hip or gable. The hip roofs are sometimes topped by a flat area with a *balustrade* (railing). This area is called a captain's walk or a widow's walk.

Georgian houses usually have a tall chimney at each end of the roof. Most of them have some ornamentation under the eaves. As the style developed, it became more elaborate. More ornamentation was given to doors and windows. The style also changed according to where it was built. Wood was used in New England. Stone was used in the Mid-Atlantic region. In the South, brick was used, and a wing was added to each side of the main house.

When the American colonists began to pull away from English influence, the *Federal* style became popular. See 10-17. The Federal style house has a box-like shape. It is at least two stories high and has a symmetrical design. The roof is flat and is surrounded by a balustrade. *Pediments*, 10-18, are usually over the doors and windows. Sometimes a small *portico* is added to the main entrance. (A portico is an open space covered with a roof that is supported by columns.)

### Greek Revival

The next major step in the evolution of exteriors was called the *Greek Revival*. The



WESTERN RED CEDAR LUMBER ASSOC

10-13 Pictured are the traditional Saltbox and a modern version of the same style.



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*10-14 The Garrison Colonial has an overhanging second story.*



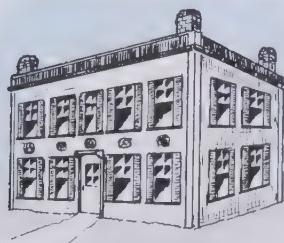
MASTIC T-LOK SOLID VINYL SIDING



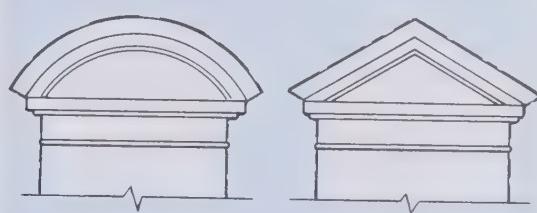
*10-15 Notice the simple, dignified lines of the Georgian house. Ornamentation is found under the eaves.*



*10-16 A symmetrical design and tall chimneys at each end are characteristics of a Georgian house.*



*10-17 The large, box-like Federal style is suitable for single-family and multifamily dwellings.*



SEGMENTAL

TRIANGULAR

*10-18 Pediments are used over doors and windows to add interest to a design.*

architecture of ancient Greece became popular. Thomas Jefferson was a great promoter of this style. He was a skilled architect and designed his famous home, Monticello, in the Greek Revival style. See 10-19. He also designed some government buildings in this style, thus setting a pattern for many of the official buildings in America.

The main characteristic of the Greek Revival style is a two-story portico. The portico is supported by Greek columns and has a large triangular pediment. Houses of this style are large and impressive. Another example is shown in 10-20.

An offshoot of the Greek Revival style is the *Southern Colonial*. In the South, people owned large amounts of land. Large numbers of people were needed to run the plantations. At least 200 and sometimes as many as 500 people lived on a single plantation. Large houses seemed a natural part of the Southern culture.

Mount Vernon, the home of George Washington, is typical of the Southern Colonial style, 10-21. The two-story columns are much like those of the Greek Revival style. But these columns extend across the entire front, and they are covered by an extension of the roof. The Southern Colonial is a large, two or three-story frame house. The design is symmetrical. The roof style is hip or gable. Dormers, shutters and a *belvadere* are often included. (A belvadere is a small room on the roof of a house used as a lookout.)

### English influence returns

Following the Civil War, the *Victorian* house style became popular. It is named after Queen Victoria of England. The main characteristic is an abundance of decorative trim. See 10-22. Other characteristics are high porches, steep gable roofs, tall windows, and *turrets* or towers.

As the style developed, owners tried to outdo one another in the amount of decorative trim on their houses. Quantity became more important than quality. Jigsawed wood trim in scrolls and designs of every description appeared under eaves and around windows

and doors. This decoration came to be known as "gingerbread."

Inside, Victorian houses had high ceilings, dark stairways and long halls. This style came to be associated with the "haunted" houses of horror movies.

### Traditional vs. modern vs. contemporary

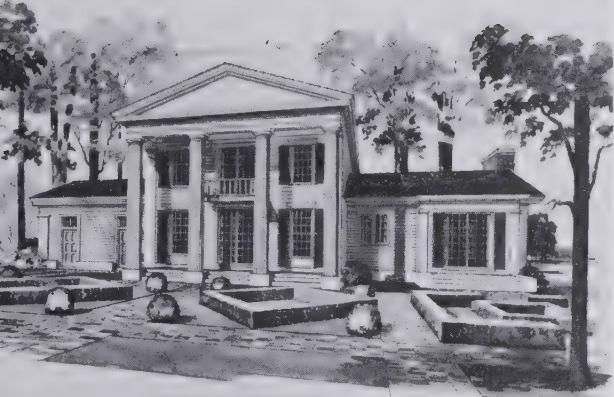
The house styles previously described in this chapter are called *traditional* styles. They are the best of the designs that were created in the past. They have survived the test of time. They have distinct characteristics that set them apart from other styles.

*Modern* house styles are relatively new. They have been accepted by many people and have a good chance of surviving. The Ranch and the Split Level are the two major modern house styles.

*Contemporary* house designs are the very latest ones. They are controversial. Some people like them; some do not. The designs surprise us. They look "strange" because we are not used to seeing them. Listing their characteristics is impossible because they vary so widely in shape, detail and materials. Only time will tell which of the contemporary designs are good enough to last.



10-19 Thomas Jefferson's home, Monticello, is typical of the Greek Revival style.



10-20 A Greek Revival house has a two-story portico with Greek columns.

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10-21 Mount Vernon is a good example of a Southern Colonial house. The roof extension over the colonnade shades the house from the sun's rays.

ROLOC



10-22 Excessive or "gingerbread" ornamentation is found on houses of the Victorian style.

WINCHESTER MYSTERY HOUSE SAN JOSE, CA

## Ranch

The *Ranch* style, 10-23, began in the West. Informal life-styles, large plots of land and a warm climate made the Ranch style ideal for that region. A Ranch house is a one-story structure, but it sometimes has a basement, 10-24. It has a low-pitched roof with a wide overhang. Large windows and sliding glass doors that open onto a patio are common.

The Ranch style has become popular throughout the country. The building materials used and the amount of energy-saving devices needed vary according to the region.

The one-story structure without stairs makes the Ranch house easy to maintain and easy to walk through. However, because it covers a large area, it is expensive to build. The large foundation and roof are costly. Another disadvantage of the long, rambling structure is that it is less energy-efficient than other house styles.

A variation of the Ranch is the *Hillside Ranch*, 10-25. As its name implies, the house is built on a hill. Part of the basement is exposed. Depending on the layout of the lot, the exposed part may be anything from a living area with a beautiful view to a garage. See 10-26.

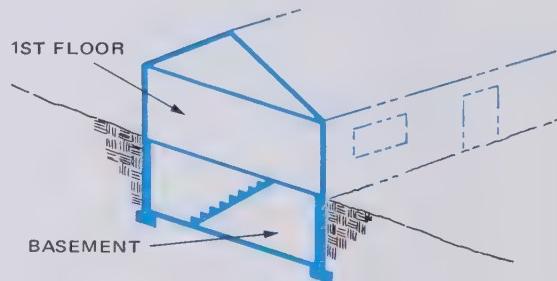
Another variation of the Ranch is the *Raised Ranch*, 10-27. (It is sometimes called Split Entry.) It is like the Ranch except that the top part of the basement is above ground. This allows light to enter the basement through windows. The basement living area

can be very pleasant if it is well-insulated and waterproof. A disadvantage is that some stairs must be climbed to get anywhere in the house. This can be a problem for children, handicapped persons and the elderly.

## Split Level

The *Split Level* house style, 10-28, was developed for sloping lots. This is where it looks best although it is sometimes used on flat lots. A Split Level house has either three or four levels. The levels can be arranged in many ways, as shown in 10-29.

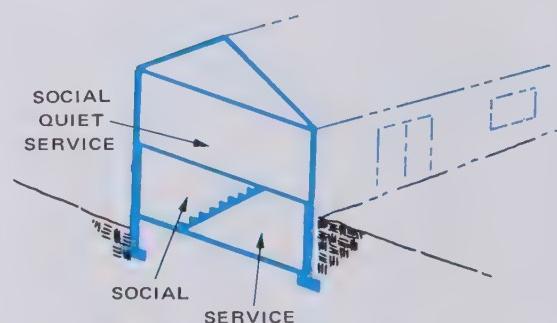
An advantage of the Split Level is that separating traffic to the social, quiet and service areas is easy. Also, there are only a few stairs to climb to get from one level to another. On the other hand, some stairs must



10-24 Some Ranch houses have basements which are suitable for living space.



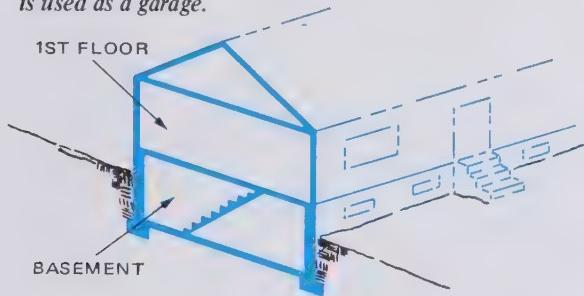
10-23 Indoor and outdoor living areas are easily integrated in a Ranch house.



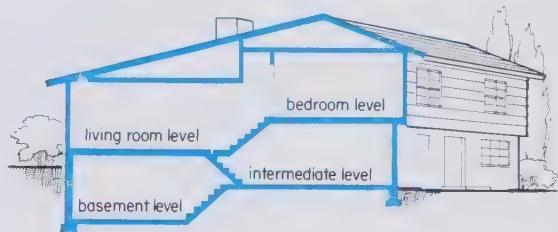
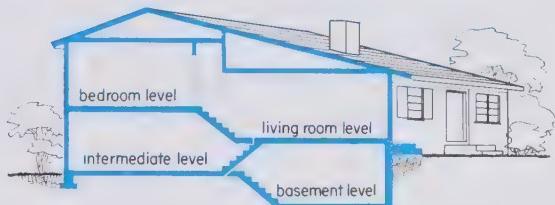
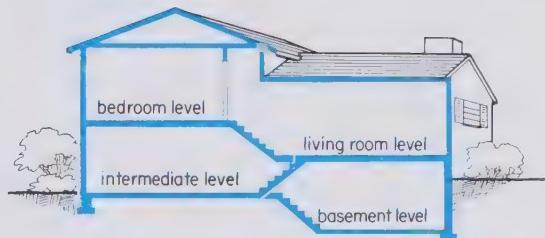
10-25 Part of the basement of a Hillside Ranch is above ground level.



*10-26 The exposed part of the basement of this Hillside Ranch is used as a garage.*



*10-27 The top part of the basement of a Raised Ranch house is above ground. This makes the basement livable.*



*10-29 Changing the arrangement of levels in a Split Level house changes its outside appearance.*



*10-28 Split Level houses have three or four levels that help separate the social, quiet and service areas.*

MASTIC T-LOK SOLID VINYL SIDING

be climbed to get from one area to another which is difficult for some persons.

When comparing houses with the same amount of living space, Ranch styles are more costly to build, heat and cool than Split Level styles. However, Split Level houses are more costly to build, heat and cool than two-story houses. A two-story house is economical and energy-efficient, 10-30.

### Contemporary house designs

Contemporary designs cannot be described as easily as traditional or modern ones. They do not fit into nice, neat categories.

The one identifying characteristic of a contemporary design is uniqueness. Most of them use simple lines with no ornamentation. The exterior design is often important to the dwelling as a whole. It encloses some areas to provide privacy, yet indoor and outdoor spaces are integrated in other areas.

Roof styles and building materials vary widely. For instance, an A-frame house has a very steep gable roof which extends to the ground, 10-31. Most of the exterior is either roof or window. On the other hand, a "plastic" house has a molded shape made of fiberglass or a plastic material. Windows are small and unimportant to the design. Look at 10-32 to see some contemporary house designs.

### Housing designers

The most noted architect of modern times is Frank Lloyd Wright who lived from 1869 to 1959. He is called the "father of modern architecture." In the early years of his career, his influence was greatest in Europe, but it spread throughout the world. Contemporary housing designers are influenced by his work, especially those working in the United States.

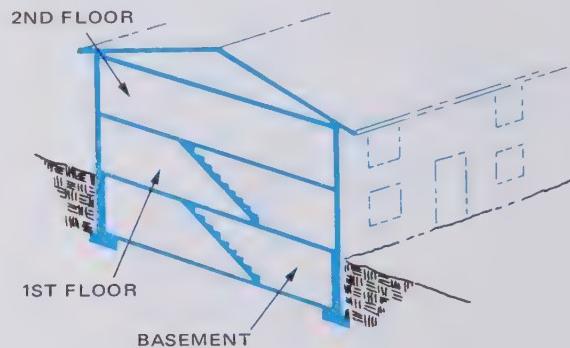
Long before the idea became widely accepted, Wright realized that many changes were taking place in family life. He designed houses to accommodate those changes.

Wright's beliefs about housing were contained in a speech he gave to the Association of Federal Architects in 1938. He said, "Every decent design for any building should

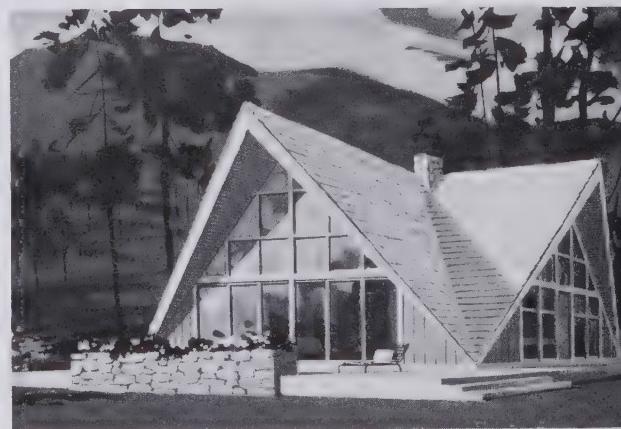
be a design for better living, a better design for a richer, fairer way of life . . ."

He also gave his prescription for a modern house. "First, a good site. Pick one at the most difficult spot — pick a site no one wants — but pick one that has features making for character; trees; individuality . . . That now means getting out of the city. Then standing on that site, look about you so you can see what has charm . . . Build your house so that you may still look, from where you stood, upon all that charmed you and lose nothing of what you saw before the house was built but see more."

He further noted that the architecture is



10-30 The two-story house is an economical house design.



10-31 The A-frame house is a contemporary design.  
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PPG INDUSTRIES



HERITAGE HOMES PLAN SERVICES



FULLER - O'BRIEN PAINTS

*10-32 Contemporary house designs vary in size, shape and building materials.*



PPG INDUSTRIES

right only if it "accentuates the character of the landscape."

Frank Lloyd Wright valued economy. He tried to use materials that were close at hand — those found in the near natural environment. Although his houses were unique, beautiful and functional, they often cost less than other houses of equal size that were built at the same time. One of the houses he designed is shown in 10-33.

Paolo Soleri was a student of Frank Lloyd Wright. His first experimental dwellings are found near Taliesin West, the Frank Lloyd Wright School of Architecture. Soleri has designed cities for as few as 3000 and as many as 170,000 people. A sketch of one of these cities, Arcosanti, is shown in 10-34. In 10-35 and 10-36, you can see some of the structures being built.

Soleri's idea is to build his structures from the cheapest durable materials that are close at hand. His structures are of concrete made with sand and gravel taken from a nearby riverbed. His architecture students do the building themselves. They learn the basic building crafts — laying brick, building forms

and casting concrete.

His designs are modular. The large structures are repetitions of a basic module that are stacked 30 high. But unlike modular complexes of other designers, Soleri's modules are irregular or angular shapes rather than rectangles. Beds and bookshelves of plywood are built in.

Another contemporary architect, Moshe Safdie, designed *Habitat*. This multifamily housing project was on display at Montreal's Expo '67. Like Soleri's Arcosanti, Habitat is an entire city located on just a few acres. Public facilities for recreational and cultural opportunities are built-in.

Contemporary architects like these know that humans can adapt their environment to meet their changing needs and values. They also know that the environment can be damaged if humans use it unwisely. The challenge they face is to design satisfying dwellings in a controlled environment. If this challenge is met, people of today as well as people in the future will have the opportunity to live in surroundings that help them meet their highest needs and values.

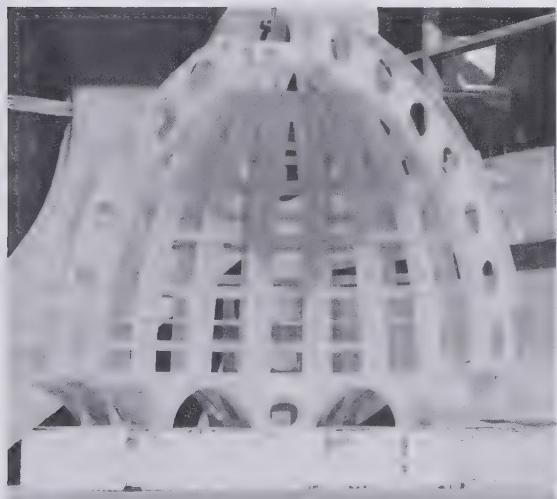


10-33 This house in Phoenix, Arizona, was designed by Frank Lloyd Wright.

WESTERN WAYS FEATURES



*10-34 Soleri, the architect of Arcosanti, is building the city on only seven acres (2.8 hectares) of land. Much living space will be underground.*



*10-35 This is a model of a multifamily dwelling to be built at Arcosanti.*

SALLY CLEVINGER



*10-36 Guided tours are held daily for those interested in Arcosanti.*

SALLY CLEVINGER

# *to* Know

adobe dwelling . . . balustrade  
belvadere . . . Cape Cod . . .  
contemporary . . . cultural  
heritage . . . dormer . . .  
Dutch Colonial . . . Federal . . .  
French Provincial . . . flat  
roof . . . gable roof . . .  
gambrel roof . . . Garrison  
Colonial . . . Georgian . . .  
Greek Revival . . . hogan . . .  
Hillside Ranch . . . hip  
roof . . . log cabin . . .  
Mansard roof . . . modern . . .  
pediment . . . portico . . .  
Raised Ranch . . . Ranch . . .  
Saltbox . . . shed roof . . .  
Southern Colonial . . . Spanish  
house style . . . Split Level . . .  
traditional . . . turret . . .  
Victorian . . . Frank Lloyd  
Wright

# *to* Review

Write your answers on a separate sheet of paper.

1. A red tile roof, an enclosed patio, and arch-shaped windows and doors are characteristics of:
  - a. Adobe dwellings.
  - b. Spanish house.
  - c. Dutch Colonial.
  - d. French Provincial.

2. The log cabin is the result of \_\_\_\_\_ influence.
3. Draw sketches of a low-pitched gable roof and a high-pitched gable roof.
4. Which house style had its beginning as a one-room dwelling?
  - a. Spanish house.
  - b. French Provincial.
  - c. Cape Cod.
  - d. Southern Colonial.
5. An overhanging second story is a characteristic of what house style?
6. Which architectural style was promoted by Thomas Jefferson?
7. Describe a portico.
8. List four characteristics of a Victorian house.
9. Name one advantage and one disadvantage of the Ranch house.
10. What kind of lot is best suited to the Split Level house style?
11. Who is known as the “father of modern architecture”?

# *to* Do

1. As a group activity, make a collage of sketches and photographs of house styles. Divide into teams. Write stories about the life-styles of people who lived when the styles were first popular.
2. Take pictures of different house styles in your community. Work together as a class to identify them.
3. Go to the library and do some research on architectural styles. Report to the class on some of the factors that influenced each style.
4. Read real estate ads in the newspaper. Note the styles mentioned and the way they are described.
5. Collect news items about contemporary architects and/or contemporary house designs.
6. Give a report on one of the following:
  - a. Frank Lloyd Wright.
  - b. Paolo Soleri.
  - c. Moshe Safdie.

# Housing needs today

*After reading this chapter, you will be able to describe the rapid growth of cities during the Era of Industry, the creation of slums and some slum clearance projects. You will be able to discuss the pros and cons of suburbs, the rapid changes taking place in the Era of Automation and some of the ways you can control your housing environments.*

**W**hen we consider our housing needs today, we must talk about the rapid population shift of the 20th century. It brought families from agricultural areas into the cities. This created housing problems that still confront most, if not all, major cities.

## THE ERA OF INDUSTRY

As the United States began to mass produce more goods, factories attracted a large labor supply. People came from scattered farms and concentrated in small areas. Agriculture became a way of life for fewer and fewer people. Now, less than five percent of American people farm for a living. This dramatic shift took place in less than a single lifetime. It caused many changes, including some related to housing.

### The new city life

In the city, small social groupings that had existed gave way to a new city life. Money was earned outside the home, so the home was no longer a family work center. It became a place to eat, sleep and spend leisure time.

As might be expected, the sudden and rapid growth of city populations caused a rush to build houses. A confusing number of

house styles came into being. Too little thought and too little control of surroundings brought problems. Construction was often of shoddy quality; designs were poor; and too many persons were jammed into too little space.

### The creation of slums

Row houses and apartments can be good places to live. (Row houses are a continuous group of houses connected by common sidewalls.) But too many were built in too little space. Too little consideration was given to the development of satisfying housing. As a result, *slums* were created.

Congress defines a slum as an area in which most of the buildings are detrimental to health, safety or morals. Poorly built shacks, tenement houses and once good homes that are in bad repair are all types of slum housing.

Whole areas become slums for many reasons. The cause may be neglect, over-crowding, poor arrangement of living space or lack of ventilation, light and sanitation. Buildings in these areas become targets for arson and other crimes that affect health and safety. Factories and junkyards are next door to homes. The air is foul. Children must play on streets or in crowded and equally unsafe public play areas. Other dangers of sub-standard housing are listed in 11-1. Living conditions like these do not always satisfy even the primary needs of people, much less their secondary needs and values.

### Slums affect everyone

Slum conditions, however far away they may be from you, still touch you in some way. Your community may pay the cost of welfare and fire, police and health protection for a slum area. Since the federal government shares some of these costs with local governments, the costs are spread to taxpayers everywhere.

Slums are also costly in terms of human resources. People living in slums may not have the chance to develop their full potential. Society loses the opportunity to gain from their intelligence, creativity and skills.

### Slum clearance projects

Federal, state and local agencies have taken action to eliminate slum conditions. Laws have been passed to protect the nation's housing. In addition, some communities have made progress toward better housing as a result of group effort. Some of the many projects that have been undertaken are:

1. In Cleveland, Ohio, a guide on saving declining neighborhoods was developed and published.
2. A real estate board in Norristown, Pennsylvania, inspected all the property in town. They notified owners whose houses needed to be improved. As a result, 50 units were torn down, and 500 were improved.
3. A nonprofit foundation for slum clearance was formed in East Chicago, Indiana. Purdue University and several industrial companies took part in the project.
4. The city of New Orleans developed a program to enforce housing standards. All houses were to be inspected within 10 years. In the first year, 2000 homes were improved to meet the city's housing standards.
5. A nationwide project called ACTION (American Council To Improve Our Neighborhoods) was established. The purpose of the council is to help groups of citizens with projects. ACTION's method of attacking a problem is shown in 11-2.
6. The Model Cities Program, administered by HUD (Department of Housing and Urban Development), has launched an attack on the slums of 63 cities.

### The move to the suburbs

*Suburbs* are cities, towns or villages that are clustered around the borders of a larger city. They sometimes extend into farm lands. A map of any large city will show a central city surrounded by suburbs, 11-3.

Suburbs were formed as people moved away from the inner city. They wanted to escape the crowding, noise and crime. They

wanted to live in newer, better homes that they could own.

Improved transportation made the move to the suburbs possible. Before the Industrial Revolution which started the Era of Industry, good transportation was not available. There were no systems of roads, trains or buses to get people from one place to another. They had to live within walking distance of their jobs.

When rail and bus transport systems were developed, they linked the suburbs to the city. Transportation became convenient and cheap. The popularity of the family car also helped solve the problem of transportation.

## DANGERS IN SUBSTANDARD HOUSING

## NONHUMAN

- Rats and other vermin  
Poisons  
Fire and burning  
Freezing and cold  
Poor plumbing  
Dangerous electrical wiring  
Trash (broken glass, cans and so forth)  
Heights that are not protected  
Poorly designed or deteriorating structures  
    walls too thin  
    ceilings coming down  
    doors that will not close or lock  
    rickety stairs

## HUMAN

- Violence to persons
    - assault
    - fighting and beating
    - rape
  - Violence to possessions
    - things thrown or dropped
    - stealing
  - Verbal abuse
    - from own family
    - from neighbours
    - from caretakers
    - from outsiders

Adapted from: Rainwater, Lee. "Fear and the House-As-Haven in the Lower Class." Symposium on the Social Psychology of Low-Income Housing: Policy and People, American Psychological Association, Los Angeles, CA.

*11-1 Which of the dangers listed arouses the most fear in you? How would you feel if you had to face all of them?*

Put these things together and they spell ACTION – for your home, neighborhood, community, country.

**Alert your neighbors to the opportunity of community improvements. Arouse their interest.**

**Clear up your own housing and neighborhood deficiencies first.**

Talk to community leaders. Get them to join you and help.

Insist on a start being made right away, no matter how small. Tackle at least one manageable project as a focus for organized activity.

**Organize the widest possible participation from every part of your community.**

**Never give up. Keep prodding local officials. If one course of action fails, try another.**

*11-2 These are the goals of the American Council To Improve Our Neighborhoods. Together, they could have great impact on your housing.*



*11-3 Suburbs surround modern cities making it difficult to know when you have left the city limits.*

Many people then combined the use of their car and the mass transit systems to get from their suburban homes to their jobs in the city. As the transport systems developed, people could spread out even further. In 11-4, you can see a huge transportation network to move people to and from the suburbs by rail and bus. Look again at 11-3 to see how a similar network of highways and expressways moves people to and from the city by car.

## Pros and cons of suburbs

People who moved to the suburbs did escape many of the city's problems. Generally, they felt more safe and secure. They lived in nicer homes that were closer to schools, parks and shopping centers. However, suburbs have created new housing problems. Those who live along transportation routes between cities and suburbs often complain of noise and fumes. Generally, such residential properties are less costly because of the nuisances. The value systems of the residents determine whether they choose to accept the nuisances or to move to an area with more costly housing.

Another problem of suburbs is a sense of sameness and dullness. Neighborhoods are full of houses that are similar in design and value. Many suburbs lack the excitement that is caused by a variety of things to see and do.

Young people who have grown up in such an environment complain of the dullness about them. They say that all of their activities are planned for them by the schools or by their parents. The museums, concerts, theaters and sports events in the city are too far away to visit. These young people want an opportunity to be different. Although their housing meets their primary needs and some of their secondary needs and values, they feel too stifled to achieve self-actualization.

Still another outcome of life in the suburbs has been the emergence of a strong middle class. This in turn has caused other social classes to be defined. Anyone above middle class is labeled upper class, and anyone below middle class is labeled lower class. The concept of such distinct social classes has brought

with it problems that are related to segregation and integration.

*Segregation* means setting apart. In relation to housing, it means that groups of similar people are set apart from others. Thus, people in the lower class are often grouped together in the inner city. People of the middle class dominate the suburbs. Upper-class people usually live on large estates or in plush downtown apartments.

*Integration* means combining. In integrated housing, groups of people are mixed. People



**11-4 A network of mass transit lines — both commuter railroads and bus systems — connect Chicago with its many suburbs.**

of different ethnic backgrounds, races, religions, educations and socioeconomic levels live next to each other. See 11-5.

The topic of integration has caused a great deal of unrest and disagreement. It has been an issue in schools and on jobs. These problems are closely related to housing decisions. Some laws have been made to deal with the problem. Some communities have passed open housing ordinances which make it illegal to deny minority groups equal housing opportunities in a neighborhood.

Do you recall any problems with integration in your community? What was the solution?

### Rural housing

Many rural people have beautiful and comfortable homes as shown in 11-6. However, rural areas have housing problems just as urban areas do. In fact, studies show that the *rural poor* are some of the most neglected people in the United States. Their housing is often substandard as shown in 11-7.

Another neglected group are *migrant workers*. These are seasonal workers who move from farm to farm as they are needed. They sometimes must live in substandard



DANNY CLEVENGER

11-6 Many farm families live comfortably in good housing.



GEORGE GALE

11-5 Some housing projects integrate low and middle-income families. This neighborhood has some houses in a lower price range.



11-7 The rural poor live in substandard housing.

housing such as that pictured in 11-8.

Many of the rural poor and migrant workers do not have sanitary conditions in their homes. Some are without hot water, flush toilets and places to bathe or shower. So far, most housing improvement projects have been directed toward substandard housing in urban areas. Because the buildings are more concentrated there, the problems are more noticeable. Both urban and rural areas need attention.

## ERA OF AUTOMATION

In just one lifetime, agriculture lost its number one spot, and the country passed through the Era of Industry into the Era of Automation. Today, machines are performing tasks once done by humans. Things seem to happen automatically, and the pace of life has become even faster.

In his best seller, "Future Shock," Alvin Toffler tells us that change was so slow in past history that it was hardly noticed. One could live an entire lifetime and not feel the impact of the changes taking place. He reminds us that of the last 800 lifetimes, humans spent 650 of them as cave dwellers. Only in the last two lifetimes has anyone used an electric motor. And in the last lifetime alone, most of the things we take for granted in everyday life have been developed, 11-9. Future shock is the term Toffler uses to describe these fast-moving changes.

### Housing a changing people

We are living in a time of change, and the rate of change is so rapid we sometimes have difficulty knowing where we are or what we need. Watching the changes occur is like seeing a movie with the projector running at high speed. We cannot tell very much about what is taking place.

These rapid changes can be discussed in terms of things, places and people. They all affect housing.

**"Things" related to housing.** Things are the objects we make. We have them available in many forms and from many types of mate-

rials. If you were to list the things in your home, which ones could you cross off as not being needed? How many are essential?

Today, many things are mass-produced to minimize cost. Buying a replacement for something is sometimes cheaper than repairing it. Things are made for short-term use because newer models will be available soon. We have become a "throw-away" society. Have you ever noticed the items that are taken to city dumps? Have you seen some that could still be used? What "throw-away" things are used in your home? Do you use paper towels or napkins?

Are you aware that only a few generations ago, people bought sugar and flour in large cotton sacks that were recycled? They were made into dish towels, pillow cases, clothing or some other item. Then they were probably recycled again as cleaning rags. What kind of containers are used for food products today? What happens to the containers?

**"Place" related to housing.** We move quickly from one place to another. Our jobs, vacation plans and other aspects of our lives cause us to travel a great deal. The average car owner travels 10,000 miles (16 000 kilometres) each year. Some people belong to the "jet set." They frequently travel long distances by air. Add these to the other methods of transportation, and the picture is clear that we are a mobile people.

As a mobile people, we move the location of our housing too. One family out of five will move from one home to another within a year. The number of two-home families is increasing. These families spend part of their time in one place and part in another. When we look about us, we can see the lack of permanence in location or place.

**"People" related to housing.** Because things and places change, people must also change. And because people change, their housing needs and values change.

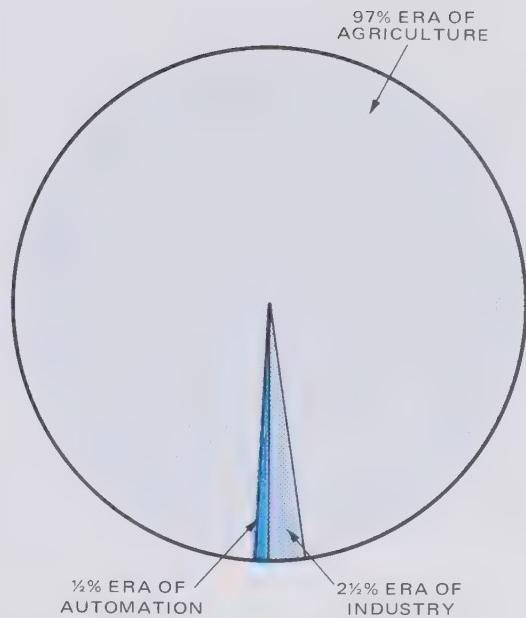
One such change is in the pattern of home ownership. Home ownership was once valued highly among Americans. But since people now move more often, they may choose not to own their homes.

People of today are not committed to the same life-styles that have been common in the past. Many choose to remain single. Some people who do marry choose not to have children. With smaller living units, less space is needed.

### Computer-matched housing

In this Era of Automation, many decisions are made for us. We do not question them. In fact, we often take them for granted. We expect carpet and draperies to be furnished when we move into a house. Large pieces of equipment such as the kitchen range and refrigerator are there. We are delighted if many shelves, drawers and a snack bar are built-in. We do not have to make decisions about their size, color, brand or price unless we want to change them.

You will always make some housing decisions, but they may be even easier in the future. Some people have predicted that before you move, you will send information



11-9 *The circle represents the lifetimes of all the people who have ever lived. The Era of Automation is still very new.*



11-8 *At certain times of the year, migrant workers must live in housing like this. Little community assistance is available for these people.*

about your living unit to a computer center. The information will be processed, and your living unit will be "matched" to a dwelling. When you arrive, your new home will be ready for you. You will bring few things with you. Most of the usable things you have will be left behind for the next living unit that is "matched" to your old dwelling.

Life will probably continue to move at a fast pace, so you should prepare yourself to make new types of housing decisions. To do so requires being aware of changes and of the effects changes have on people and the environment.

## CONTROLLING HOUSING ENVIRONMENTS

For decades, the great American dream was to own a single-family dwelling on a piece of land. When a family reached that point in life, they were considered "successful." The creation of suburbs is proof that Americans sought that dream.

As suburbs developed, sites for dwellings became smaller. The houses were built closer together. The streets and highways became congested. The new housing environment did not satisfy a great number of the people. This lesson was a hard one, but we have learned that we need to control our environment to maintain its satisfying qualities.

### Micro and macroenvironments

Your *microenvironment* is your near surroundings. It is close around you and affects you greatly because you interact with it so much. Regardless of the type of dwelling in which you live, it is one part of your microenvironment. The yard or site on which your dwelling rests is another part.

Your larger surroundings are called your *macroenvironment*. It includes:

1. A transport system including roads, railways and airports as well as individual vehicles.
2. Community facilities such as shopping centers, churches, schools, hospitals and fire and police protection.

### 3. The housing industry.

4. Private and government agencies, some of which are listed in 11-10.

You are already in the habit of making decisions about your microenvironment. If you are to control your total housing environment, you must also become involved in the decision-making that affects your macro-environment. Are you aware of the housing decisions being made in your community? Do the people living there want to become a part of the decision-making process? Are they encouraged by housing agencies and other groups to become involved?

### Types of environments

As you think about controlling your housing environment, you should be familiar with the three different types of environments:

1. The natural environment.
2. The constructed environment.
3. The behavioral environment.

The *natural environment* is that which is provided by nature, 11-11. Land, water, trees and solar energy are examples of resources of the natural environment.

### GROUPS CONCERNED WITH HOUSING

- American Bankers Association  
American Public Health Association  
Building Products Institute  
Department of Agriculture — especially  
    Farmers Home Administration (FmHA)  
Department of Health, Education and Welfare (HEW)  
Department of Justice  
Department of Labor  
Environmental control agencies at national, state and local levels  
Federal Equal Housing Opportunity Council  
Federal Housing Administration (FHA)  
Housing and Urban Development (HUD)  
Housing Authority at state and local levels  
Manufactured Housing Institute  
National Association of Home Builders  
National Association of Real Estate Boards  
National Commission in Urban Problems  
Planning Commissions at state and local levels  
Veteran's Administration (VA)

*11-10 These are some of the groups that influence your macroenvironment.*

The *constructed environment* is the natural environment after it is changed by human effort. A constructed environment is created whenever a dwelling is built, whenever trees and bushes are planted around the dwelling and whenever heat pumps, heaters or air conditioners are used to change the indoor climate.

Together, natural and constructed environments can provide pleasing surroundings as shown in 11-12. A highway through the mountains makes the beautiful scenery accessible to people. Buildings located along beaches allow people to enjoy a view of the water. See 11-13.

The *behavioral environment* is the interaction among people. Human resources such as intelligence, skills, energy and attitude are part of this environment. Feelings such as



SALLY CLEVINGER

**11-11 Mountains are a part of the natural environment.**



**11-12 Dwellings and the things humans put in and around them are part of the constructed environment.**

WESTERN WOOD PRODUCTS ASSOC

happiness, loneliness, love and anger are another part of it.

The behavioral environment overlaps with the other types of environments, 11-14. It is found wherever people interact with each other — in child care centers, schools, shopping centers, neighborhoods and homes.

### **The environment affects the environment**

One type of environment affects another type, causing chain reactions, 11-15. As an example of how this happens, consider a certain community which has a limited amount of land (part of the natural environment). In this community, houses are built close together. The constructed environment

covers almost all the land. No land is set aside to preserve part of the natural environment.

The people who live in this community create the behavioral environment. The behavioral environment is full of conflict because the constructed and natural environments are not satisfying. The people are crowded too close together. They do not have the space they need nor the beauty of nature they value. Because they did not control their environments, they cannot satisfy all their needs and values.

### **People and the environment affect each other**

Once a constructed environment is started, it seems to keep growing. When a housing area



*11-13 This building allows people to eat and relax while enjoying a view of the bay.*

CALIFORNIA REDWOOD ASSOC

is developed, streets, schools, shopping areas and other constructed elements appear. They are added because people want them.

As the dwellings are being completed, people start visiting the models that are open. Not everyone who visits moves into the new development, but some people do. They use the recreation and shopping facilities. They drive their cars on the streets and walk on the sidewalks. People created the constructed environment, and it fulfills their needs.

### People affect people

If you know and understand the needs and values of others, you are more likely to agree with their ideas. Suppose that some people want to make changes in the neighborhood park. If you understand the reasons for the changes being proposed, you are more likely to support them.

If you have the ability or skill to help carry out plans, people look to you because of that resource. When they want help with a project,

they will come to you. If you agree with their ideas, you will help them achieve the changes they want. The chain continues. People are influencing each other, and they are changing the environment.

## A REVIEW OF HOUSING NEEDS

As we look toward the future of housing, we see some needs. To meet them, we will have to fit the answers to these needs into an overall plan. To achieve an effective housing environment, the plan will include the following aspects:

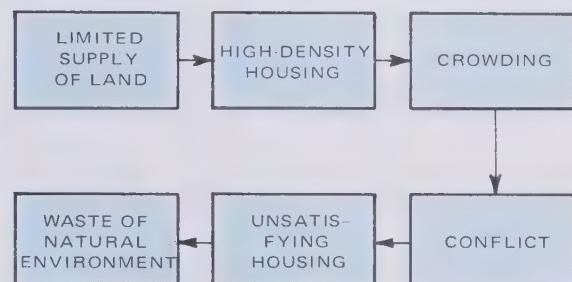
1. Understanding the different types of environments.
2. Using the resources provided by each type of environment.
3. Determining the needs and values of the people involved.
4. Knowing how people react to each other under certain conditions.
5. Considering how housing fits into the environmental picture.
6. Making housing decisions that provide lasting satisfaction for people.
7. Making housing decisions that conserve and develop an environment that encourages human growth.
8. Taking action once the decisions are made.

Meeting these needs is a challenge for the future.



H. L. ROLF

*11-14 The cooperation of people who are making the most of their human resources is an example of a good behavioral environment. They are building a structure which will be part of the constructed environment. The background scenery is part of the natural environment.*



*11-15 One type of environment affects another type. The result is a chain reaction.*

# *to* Know

behavioral environment . . .  
constructed environment . . .  
Era of Automation . . . Era  
of Industry . . . Industrial  
Revolution . . . integration . . .  
macroenvironment . . . micro-  
environment . . . migrant  
workers . . . natural  
environment . . . rural poor . . .  
segregation . . . slums . . .  
suburbs

# *to* Review

Write your answers on a separate sheet of paper.

1. What was the main cause of the dramatic population shift from rural to urban areas?
2. Why might a housing area become a slum?
3. Name two ways slums affect you.
4. Describe three slum clearance projects.
5. Give two reasons people moved from cities to suburbs.
6. Describe two housing problems created by the move to the suburbs.
7. Differentiate between integrated and segregated housing.

8. Two groups of people in rural areas who often live in substandard housing are the \_\_\_\_\_ and \_\_\_\_\_.
9. What is meant by the term "future shock"?
10. Give one example of how each of the following influences housing trends:
  - a. Things.
  - b. Place.
  - c. People.
11. Your near surroundings are your \_\_\_\_\_; your larger surroundings are your \_\_\_\_\_.
12. After the natural environment has been changed by humans, it is called a:
  - a. Behavioral environment.
  - b. Constructed environment.

# *to* Do

1. Ask some older persons to tell you about how their housing has changed throughout their lifetime. How did their life-style and housing affect each other? You might tape the interviews and share them with the class.
2. Get brochures from housing developers and builders of several types of dwellings. List the advantages they give for the type of home they promote. Tell how the

advantages are related to the following:

1. Natural, constructed or behavioral environment.
2. Microenvironment or macroenvironment.
3. Things, places or people.
3. Collect articles from newspapers and magazines that tell about housing needs today.
4. Find out about plans for integration in your community. Tell how they are related to housing.
5. Describe a suburb with which you are familiar.
6. Find out about all the major housing acts since 1930. Give the year of each act and its major provisions.
7. Check the houses in your neighborhood to see how many have changed occupants in the last year.
8. List some of the things you own. Write "1" beside those you have had less than one year. Write "5" beside those you have had more than five years.

# Housing for tomorrow

*After reading this chapter, you will be able to describe a planned community and to list some of the elements it should include. You will be able to discuss some new sources of living space, some new building materials and methods, and the importance of controlling the environment.*

**H**ow can we have better housing for tomorrow? We cannot know just what the future holds. But by learning from the past and watching for new developments, we can make tomorrow's housing better.

Housing of the future should be designed and constructed for the people who are to use it. We do not want to plan future slums. Needs and values of people should be considered. Housing must allow for the changes taking place in the lives of people. But at the same time, we must be careful to protect our environment.

## PLANNED COMMUNITIES

*Planned communities* are one answer to today's housing problems. Instead of just "happening" one building at a time, these communities are designed to meet present and future needs. Careful consideration is given to the use of resources and to the needs and values of humans. Arcosanti, designed by Paolo Soleri, and Habitat, designed by Moshe Safdie, are two examples of planned communities. (Refer to Chapter 10.)

### Columbia, Maryland

Columbia, Maryland, is a community that was planned by architect James W. Rouse. It

is located on 15,000 acres (6070 hectares) of land between Baltimore and Washington, D.C. About 3200 acres (1295 hectares) are set aside for such things as parks, lakes and a golf course.

The city of Columbia is really a group of seven villages. They are built around an urban downtown. In this arrangement, the villages are called *satellite communities*.

The total number of residents in Columbia can reach 110,000. It is planned as an integrated community for people from different backgrounds. The homes are in a wide range of prices and styles. Some can be purchased, and some can be rented.

Included in the planning of Columbia were specialists from many fields: architects, sociologists, educators, religious leaders and doctors. They tried to answer the question, "What should be included in a well-planned community?" They considered the following factors:

1. The desired life-styles of the occupants must be considered.
2. The occupants must be able to afford the housing.
3. The neighborhood must be arranged so people have easy access to schools, churches, stores and health facilities.
4. Recreational facilities should be provided for all age groups from the very young to the very old.
5. A community should be broken up into neighborhoods by the use of green belts, parks and playgrounds.
6. A public transportation system should be provided to move people where they need to go without great expense.
7. There should be opportunity for employment for all who need work.
8. Educational opportunities should be available for all at the level they need.
9. There should be health facilities that provide care (both to prevent and remedy poor health) at a cost people can afford.
10. There should be a communication system so that people will know about each other and community activities.

### **Millennium City**

Millennium City is another new concept of city life. An Austrian, Hermann J. Fraunhofer, is the designer. He is interested in meeting the housing needs of all people, especially children and the elderly.

In this city of the future, buildings are in the shape of disks or rings, 12-1. Each ring provides housing for about 100,000 people. The rings reach a diameter of one mile (1.6 kilometres) and are 400 feet (122 metres) high. They contain housing units ranging in size from 300 to 2200 square feet (27 to 198 square metres). Durable building materials such as glass, steel and concrete are used. The structures are expected to last 500 years. Some close-up views are shown in 12-2.

Traffic patterns in Millennium City follow the outlines of the rings. They can be compared to the traffic pattern of a skating rink. The circular flow of traffic makes traffic control simple.

A mass transit system (a monorail), bicycle paths and walkways provide easy access to all areas of the city. Since each structure is in the form of a circle, everything is close together. A person can get to any place within the circle in a minimum amount of time. People of any age can travel anywhere in the city easily. Parking space for personal vehicles is provided. However, cars are needed only for transportation away from the city.

Each ring is designed to include shops, schools and churches. These and other community services occupy the bottom levels of the rings. Inside the rings are open areas. They include features such as lakes, zoos and golf courses.

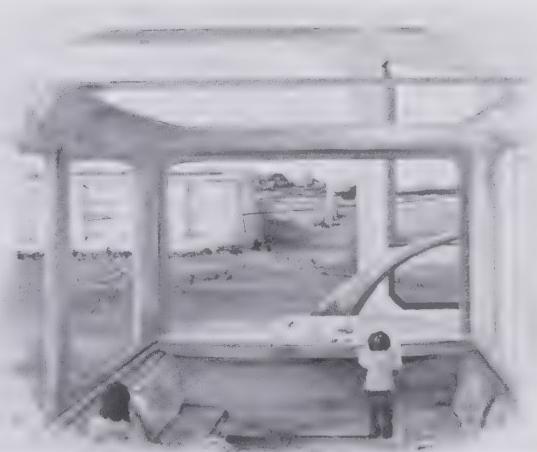
Power is produced within each ring. For instance, the mass transit system can be fueled by gases from recycled human waste. Solar energy is trapped and used to heat and cool buildings. Other resources are wisely used, and pollution is controlled.

Millennium City is a fresh alternative to the "cereal box" designs of many multifamily dwellings of today. Fraunhofer claims the city is realistic. One of the concepts used in his design is that of *cluster housing*.



CONCEPT 2000, HERMANN J. FRAUNHOFER

*12-1 Perhaps many cities of the future will resemble Millennium City.*



CONCEPT 2000, HERMANN J. FRAUNHOFER

*12-2 Two exterior views of buildings in Millennium City are pictured at left. Above, a child is operating a monorail, the mass transit system of the city.*



Clustering provides the best use of space. It creates high density housing, but the land that is saved can be used for gardens and parks. These "green spots" make high density housing more satisfying.

## SPACE AND HOUSING

Many of today's housing problems relate to space. About 75 percent of the people in the United States are living on less than ten percent of the land. Yet space for housing is difficult to find. It is also expensive. To solve this problem, some new sources of living space are being explored.

### Housing in outer space

Do "condominiums in space" sound like architectural science fiction? Dr. Gerard O'Neill, a noted physicist, does not think so. He believes that before long, thousands of people will be living "out there."

One proposal is for a giant space capsule to contain 10,000 people. The capsule is planned to be a self-contained world. It has its own grass, fields, streams and animals. Residents live in small communities. Motor vehicles travel the highways. Climate, use of resources and pollution are all controlled.

Another way outer space may affect housing is through the use of satellite power stations. The stations would supply energy for use on Earth, so we would never have an energy shortage. Energy would always be available at low prices.

### Housing under the ground

Some people think living space could be extended downward. Caves, cellars and basements all have their place in the story of housing. But the idea of building whole communities underground has not yet been tried.

The idea of underground housing has gained popularity because of a man from Fresno, California. He spent many years digging rooms and tunnels underground. He built his own living quarters there. One of the rooms is large enough to be used as an

auditorium. As he dug away, people in the community called him crazy.

Since the death of this man, his excavations have been turned into a tourist attraction. Some housing planners are giving serious thought to extensive diggings. They foresee whole underground communities. Do you see a trend in this direction? Have you used underground parking space?

Paolo Soleri's first home in Scottsdale, Arizona, is an "earth house." It has been occupied for a number of years. You can walk on the roof without realizing that there is a dwelling underneath. Only when you approach the entrance are you aware of the underground dwelling.

No doubt Soleri carried out the idea expressed by his teacher, Frank Lloyd Wright. Wright said, "No house should ever be on a hill or on anything. It should be of the hill, belonging to it, so hill and house can live together, each the happier for the other." Shown in 12-3 is a dwelling that fits Wright's description.

### Housing on and under the water

Living space may be found on and in bodies of water. The SS United States, once the world's fastest ocean liner, has been converted into a seagoing condominium. The prices of its 282 housing units are very high.

Less costly seagoing living quarters are available. Some are on ocean sites, and others are on smaller bodies of water. Most of them are houseboats which are used as second homes, 12-4. However, the same idea may be used in the future to lessen the shortage of space for housing.

The dwelling in 12-5 shows how space above water is being used for housing.

Captain Jacques-Yves Cousteau is an ocean explorer. He predicts that one day people will live in cities under the surface of the water — perhaps on the ocean floor. These cities might be somewhat like the housing capsules planned for outer space.

Some of these housing predictions may not come true. Some may just be science fiction. It will be interesting to see which directions



WESTERN WAYS FEATURES

*12-3 The dwelling and the hill seem to belong together.*



H. ARMSTRONG ROBERTS

*12-4 Houseboats are popular as second homes. They can be used for year-round housing too.*

housing of the future will take. What do you expect to happen during your lifetime?

## MATERIALS AND METHODS FOR HOUSING

In Richmond, Virginia, there is a four bedroom house that looks like many of the others in the area. But it is different.

Nearly everything in the house is made from recycled materials. From the roof down, the materials have an unusual story. They have come from many sources and have been changed into building materials. The following is a partial list of the materials and how they were obtained:

California — Glass bottles from the parks were crushed into rock-like pieces. They were used for brick, concrete blocks, driveway pavement and floor tile.

Florida — Aluminum beverage cans were picked up along the beaches. Termite-proof material was produced and was used for the frame of the house.

Mississippi — Discarded auto tires were melted and mixed with some of the crushed glass for the driveway surface.

Missouri — The Environmental Research Department of the University of Missouri developed the formula for the pavement.

New Jersey — Old newspapers were made into hardboard. It was used for subflooring and wall paneling.

New York — Garbage was processed and became *compost* (fertilizer) for the outside yard.

North Carolina — Leftover fibers from carpet factories were remade into new yarn for carpets.

West Virginia — *Fly ash* (solid, air-borne particles from burned fuel) was collected from the polluted air to become 20 percent of the cement used to make concrete.

Many other materials were recycled and used in the structure. The house is a project of about 30 organizations. They worked with

the Reynolds Metals Company. The idea was to show that recycled products can be used to construct houses. Such houses look as good and are as durable as those made with common building materials.

Many people believe that our country can recycle on a grand scale. Then we can truly turn garbage into homes. The demonstration home did not cost more than similar houses nearby. If you recheck the list, you can see that products were brought from a great distance. When recycled materials become more widely available, the cost will be even less.

Materials and methods are closely related. Old materials are being put to new uses, and new materials are being developed. These factors open the door to new building methods. One of these new methods involves the use of curved lines. Instead of the straight walls and right-angle corners of "cereal box" designs, curved lines are dominant. Some studies show that the use of curved lines may have a calming effect on people. The domes in 12-6 and 12-7 show how curved lines can be used in building designs.

### Reducing waste in housing

To reduce waste in housing, we must take a long look at our housing goals. What type of housing is popular today? If you look around you, you will see that houses are really temporary in nature. This calls for more buildings to replace them. It means that materials will be wasted unless they are recycled.

On the other hand, if all dwellings were built to last 500 years, how long would they remain practical? Would we be able to take advantage of growing human knowledge? How permanent do we want our housing units to be?

Structures that are built to allow for flexibility can conserve resources. Suppose the outside shell of a building is built independently of the inside partitions or walls. The interior space could be reorganized to meet the changing needs and values of living units.



12-5 Some housing is designed to use space above water.

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*Cluster units*, as pictured in 12-8, are a type of flexible housing. Units can be added or removed as needed. Some flexibility is offered when houses can be built in stages or easily remodeled. See 12-9.

## ENVIRONMENTAL CONTROL

Today's society is deeply concerned with *ecology*. This is the relationship between all living things and their surroundings. You harm the ecology each time you put some undesirable element into your surroundings. These elements pollute the air, soil and water. Look at 12-10 to see the many types of pollution that can foul your surroundings.

Humans have made many demands on the environment. But we cannot continue "taking" without "giving." If we expect our environment to continue to satisfy so many of our needs, we must care for it.

### The need for fuel

Fuel provides heat, and people need heat to live. We need heat inside our bodies. We also need heat in our microenvironment and in our macroenvironment.

Like all forms of energy, fuel begins as solar energy (energy from the sun). Nature converts solar energy to raw materials such as oil and coal. The conversions take millions of years to complete. The raw materials are then refined and used as fuel for cooking; for heating, cooling and lighting buildings; and for running machines.

News reports continually warn the American public of an energy shortage. The supplies of common sources of fuel are being depleted. Researchers are working to find new sources that will supply enough fuel for the future.

*Garbage as energy.* Some regions are working on systems to recycle garbage. The energy created from the garbage is used to provide heat and electrical power for homes and businesses. St. Louis, Missouri, was one of the first cities to recycle its garbage. The state of New York is promoting the "3 Rs." It is asking citizens to "recover, recycle and reuse" garbage and waste.

The garbage in most communities is simply burned or buried. In places where garbage is recycled, it is sorted. The *combustible* (burnable) materials are used as fuel to operate power plants or heating plants. "Tin" cans (actually made of steel) and glass and aluminum objects are sent back to industries to be reused. Scientists are even trying to find a practical way to recycle kitchen grease.

*Wind as energy.* Some regions of the United States have strong, shifting winds that can be used for power. Windmills can convert air motion to electrical energy. They use specially designed generators to harness the wind. Some of the electricity that is produced is fed into storage batteries. The batteries



LARRY MAY, TELEGRAPH-HERALD, DUBUQUE, IA  
12-6 This partially completed dome structure is being built by a young couple in rural Wisconsin. It will be heated by solar energy.



CATHEDRALITE DOMES



*12-7 Dome structures are architecturally strong and sound. Various sizes can be bought partially prefabricated. The exterior of this dome is covered with shingles. Notice that the interior looks spacious and airy.*



L.F. GARLINGHOUSE CO., INC.

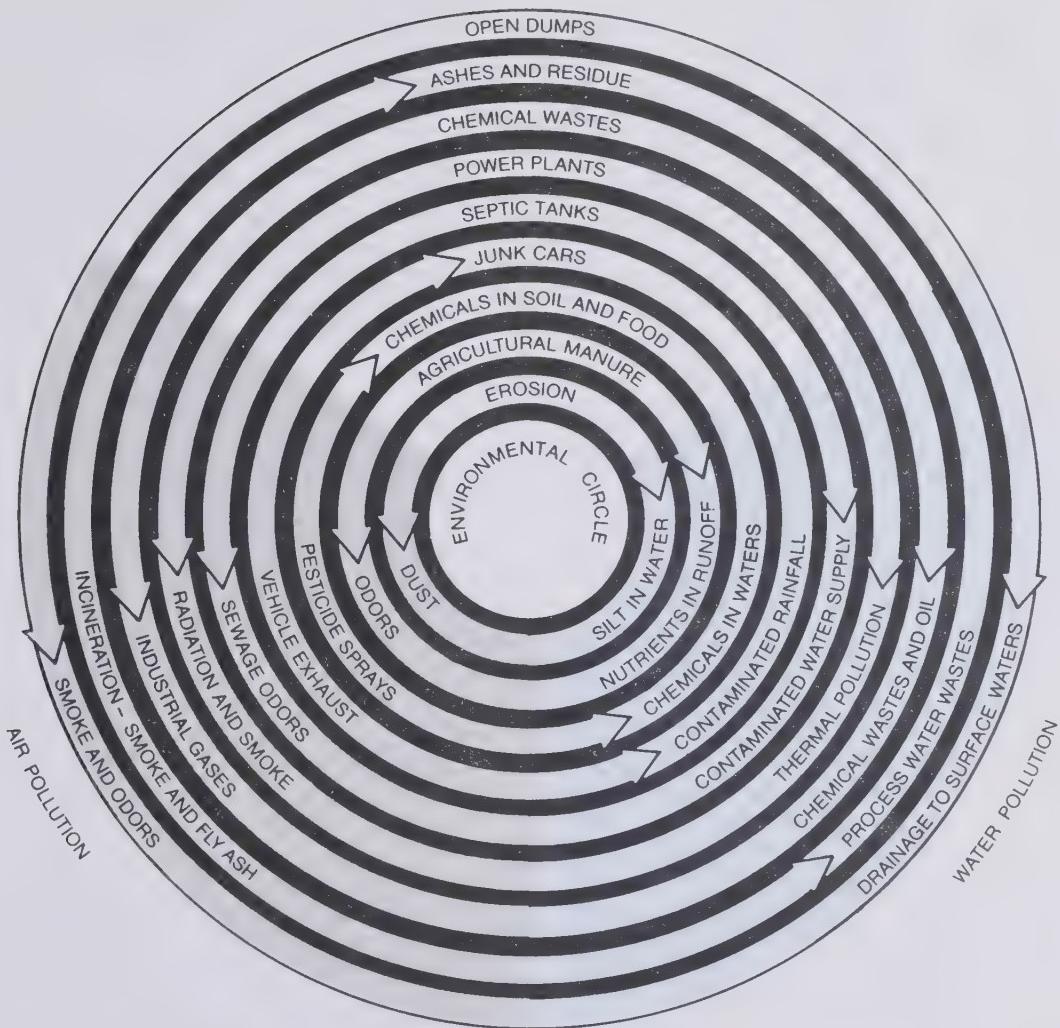
*12-8 Flexibility in housing can be achieved by using cluster units. Here, three units are connected at one end.*



HOME PLANNERS, INC.

*12-9 This house can be completed in three stages — the main part and an addition to each end.*

## LAND POLLUTION



12-10 This environmental circle shows many kinds of pollution. Notice that each kind can affect land, air and water.

NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION

keep the power flowing even when the air is still.

**Geothermal energy.** Geothermal energy is stored deep beneath the surface of the earth. It can be reached by drilling holes through thousands of feet of lava (a type of volcanic rock). Reykjavik, Iceland, is the first city in the world to become almost entirely heated by geothermal energy. Nearly half a million people in California, Mexico's Baja, and the Mexicali Valley have their fuel needs met with geothermal energy. Other major geothermal projects are located in New Zealand, Japan and Italy.

**Solar energy.** The only lasting energy source seems to be sunlight. Many houses of the future will be designed to use this energy. Plates called *solar collectors* soak up the heat. Then water or air carries the heat to a storage area or to where it will be used. The building in 12-11 is the first house designed to operate almost entirely on solar energy. It was designed to produce heat as well as electricity for lights and appliances.\* The heating and electrical systems are shown in 12-12.

Solar energy could supply a majority of the energy needed to heat and cool buildings throughout the United States. The possibilities are outlined in 12-13. Because solar heating systems are still new, they are expensive to install. However, utility bills are greatly reduced when solar energy is used. In the long run, solar heating systems are usually less costly than conventional systems.

### Conserving energy

Dwellings can be built to conserve energy. One feature that helps conserve energy is insulation. Heavily insulated attics and outer walls can help reduce heating and cooling bills.

*Tech House*, pictured in 12-14, was built by NASA's Langley Research Center at Hampton, Virginia. It is designed for a family of four. It uses only about a third of the kilowatt hours of energy of the conventional

home. Moreover, it recycles much of the water which it uses.

Its energy and water-saving features include the following:

- Plastic foam insulation.
- Solid-state appliances.
- A system to capture heat from appliance operation and waste water.
- Waste water recycling system. Waste water from sinks, bathtub and laundry is collected, chlorinated, filtered and reused as toilet flush water.

Other energy-saving ideas are listed in Appendix B.

### Noise pollution

Noise is often ignored as a pollutant, but it can make your environment unpleasant and even harmful.

Unwanted sound is *noise*. It comes from within dwellings from household appliances and active family members. It comes from outside dwellings from cars, airplanes and neighbors.

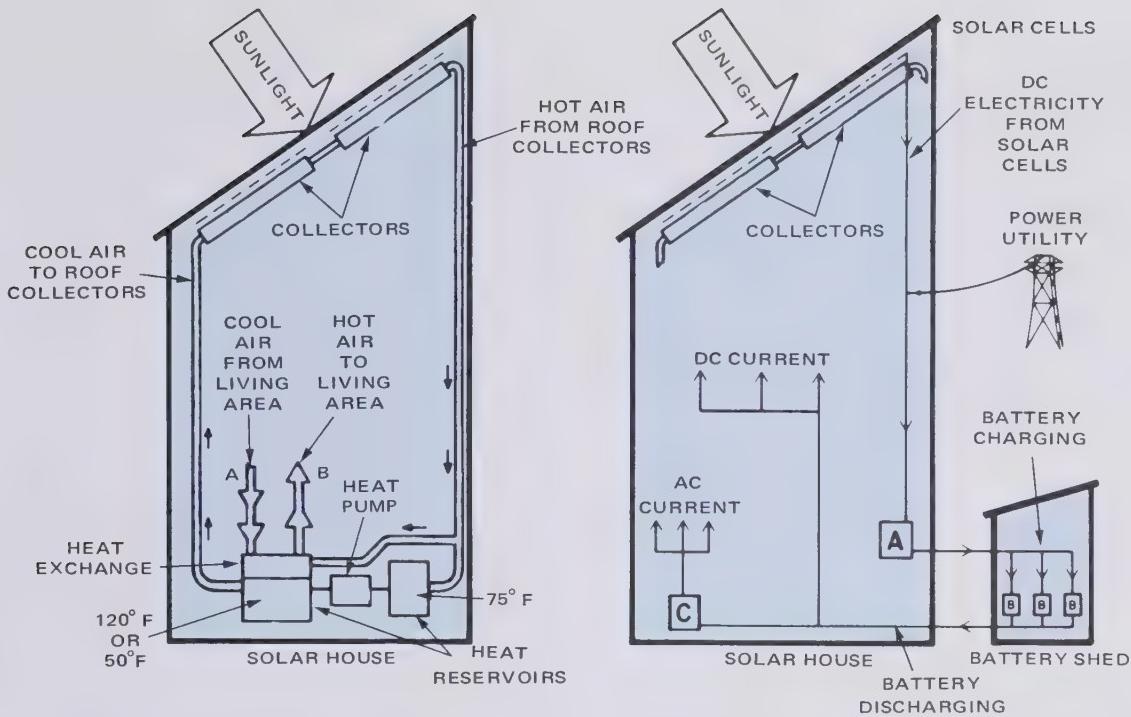
Sound is measured in *decibels*. The quietest sound that can be heard is rated at 0 decibels. A whisper is 30 decibels. Normal conversation is about 60 decibels. Continued



KARL W. BOER

12-11 "Solar One" was the first house to use only sunlight for energy. It was built on the campus of the University of Delaware for the Institute of Energy Conversion.

\*From "Solar One," Journal of Home Economics, Vol. 65, No. 9, pp. 27 and 28. Copyrighted © by the American Home Economics Association, Washington, D.C.



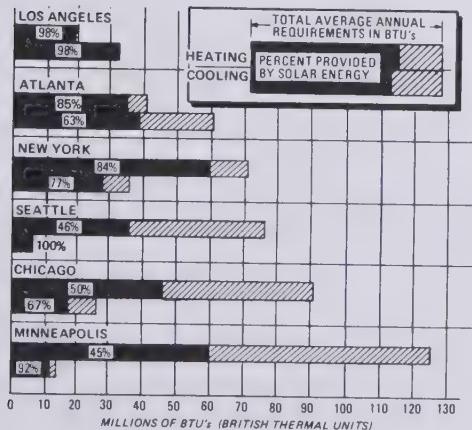
*12-12 The heating system for Solar One is shown on the left. The electrical system is shown on the right. Solar cells are able to convert sunlight directly into electricity.*

METRIC CONVERSION

50 deg. F = 10 deg. C

75 deg. F = 24 deg. C

120 deg. F = 49 deg. C



(1 BTU is approximately equal to 1 kilojoule.)  
HONEYWELL, INC.

*12-13 This chart shows the amount of heating and cooling that could be done with solar energy in some major cities of the United States.*



*12-14 The National Aeronautics and Space Administration built this experimental house. It is designed to cut fuel use by two-thirds and water use by half. The slope on the roof is for solar collectors.*

NASA

exposure to noise louder than 60 decibels can be harmful, 12-15. A food waste disposer rates 80 decibels. A shotgun blast is 140 decibels. The U.S. Environmental Protection Agency has set noise standards for home products. If you listen before you buy, you can choose quiet products.

Researchers are trying to learn more about the effects of sound on unborn babies. Even they can be harmed by noise.

*Acoustical* (sound deadening or absorbing) materials such as ceiling tile, 12-16, and fiber glass insulation, 12-17, reduce noise in a house. Draperies and carpeting also help to absorb sound. Pleasant sounds can drown out undesirable noise. Music playing within the dwelling, for example, can shut out the sound of traffic on the street.

### Visual pollution

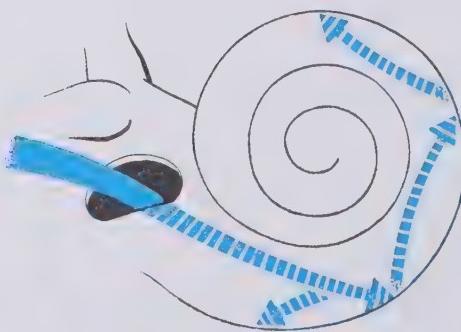
*Visual pollution* hinders your psychological well-being. It occurs in many forms. Signboards and destruction of natural surroundings, 12-18, are examples of visual pollution.

Some landscapes are disfigured by overhead power lines. Can you picture how the view in 12-19 would look if the power lines were underground? Some communities re-

quire underground utilities in new housing developments.

While Lady Bird Johnson was First Lady of the United States, she began a campaign against visual pollution. Many improvements have been made since then. An example is the beautiful surroundings of the home shown in 12-20. However, much work still needs to be done.

Fighting pollution is one way to control your environment. A healthy environment will help make tomorrow's housing better.



12-15 Vibrations from loud noises strike the sensitive cochlea (part of inner ear). Sound waves are bounced off to strike other areas. Continued exposure to loud noises can cause permanent deafness.



ARMSTRONG CORK CO

12-16 Acoustical tile ceilings are decorative and easy to install. Some tiles are available with a vinyl coating that resists grease.



12-17 Fiber glass insulation can be used in attics, behind walls and under floors.



DANNY CLEVINGER

12-18 Disturbing the natural setting of the land for construction is one type of land abuse. Here, a stand of timber that may be needed in later years has been destroyed.



12-19 Water and greenery add beauty to the environment. Sometimes that beauty is marred by unattractive power lines.



DANNY CLEVINGER

12-20 With careful planning, natural beauty can remain a part of today's environment.

# *to* Know

acoustical . . . "cereal box" designs . . . cluster housing . . . cluster unit . . . combustible . . . compost . . . decibel . . . ecology . . . fly ash . . . noise pollution . . . planned communities . . . satellite communities . . . solar collectors . . . visual pollution

# *to* Review

Write your answers on a separate sheet of paper.

1. Describe a planned community and name two examples.
2. Explain the transportation system of Millennium City.
3. What is the advantage of cluster housing?
4. How might outer space affect housing of the future?
5. Which of the following building materials might we find in houses of the future? (Check all that might be used.)
  - a. Brick, block and stone.
  - b. Earth and sod.
  - c. Materials not yet invented.
  - d. Plastic.
  - e. Recycled trash such as cans, bottles, paper and garbage.
  - f. Wood.

6. Comment on this statement: "It is not practical to have houses that would last 500 years. They would be out of style and useless long before they wore out."

7. \_\_\_\_\_ is the relationship between living things and their environment.

8. How can wind be used as an energy source?

9. Briefly describe how solar energy is captured and used.

10. Compare the terms sound and noise.

11. The unit of measure for sound is a \_\_\_\_\_.

4. Write a "science fiction" story about housing of tomorrow.

5. Survey your class or school to find which types of fuel or energy are used in the homes of students and teachers.

6. Collect articles from the local newspaper related to pollution that affects your environment. Report to the class.

7. Check your home for sources of sound. Include both indoor and outdoor sounds. Ask family members which ones they consider noise.

8. Report on the noise standards that have been established by the U.S. Environmental Protection Agency.

9. Work with other members of your class to determine ways you can conserve energy.

# *to* Do

1. As a small group activity, make a list of questions to ask people about their housing. Include some questions about the types of housing they expect in the future.

2. Bring news items and magazine articles about housing of the future to class.

3. Find out more about the people who are concerned about housing of tomorrow. You may choose from this list or find others:

- a. Rouse, James.
- b. Fraunhofer, Hermann.
- c. Soleri, Paolo.
- d. Safdie, Moshe.
- e. Cousteau, Jacques-Yves.
- f. O'Neill, Gerard.

## *Careers in housing*

*After reading this chapter, you will be able to describe several careers that are related to the field of housing. You will also be able to explain which job skills and personal qualifications are required for these careers.*

**T**he number of living units in the United States is growing. About two million new housing units are needed each year to accommodate them.

The makeup of living units changes as they grow in number and as the people in them grow older and pass through the different stages of their life cycles. According to the Associates Building Industry, 13 different types of living units seek housing, 13-1. The young and adult singles and the compacting families are the most active in the housing market.

### **Who provides housing?**

No one person can expect to provide adequate housing for himself or herself or for anyone else. The efforts of people from many career areas are combined to provide housing that satisfies people of all life-styles.

People who work in the building industry are perhaps the first ones that come to mind when thinking about who provides housing. They are an important part of housing, but they do not provide all that is needed in a good housing environment. People who work for health agencies and other community improvement groups contribute to housing environments. Fire fighters and police officers

help you feel secure. Garbage and refuse collectors help keep your environment clean, safe and beautiful. People who work for the telephone company make it possible for you to contact plumbers, carpenters, family members and friends. All these people are not in "housing" industries, but they make housing environments more satisfying.

## CAREER CLUSTERS

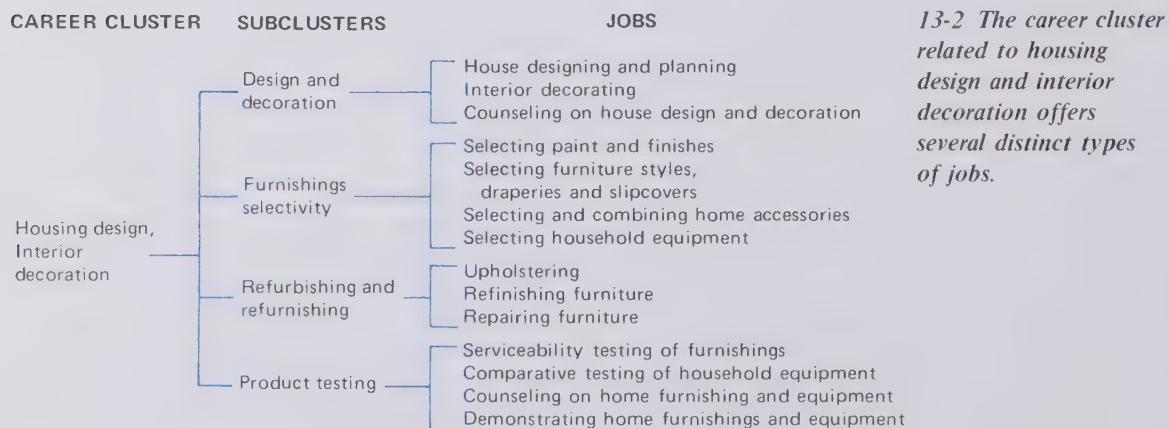
Since careers related to housing are so varied, they do not all fit in one category. Instead they are grouped into several smaller categories. Jobs or careers that are closely related make up a *career cluster*. In 13-2, you can see how the career cluster related to housing design and interior decoration can be broken down into individual careers according to the jobs that need to be done. Sometimes a career cluster is called a *career web*. Look at 13-3 to see why this name is appropriate.

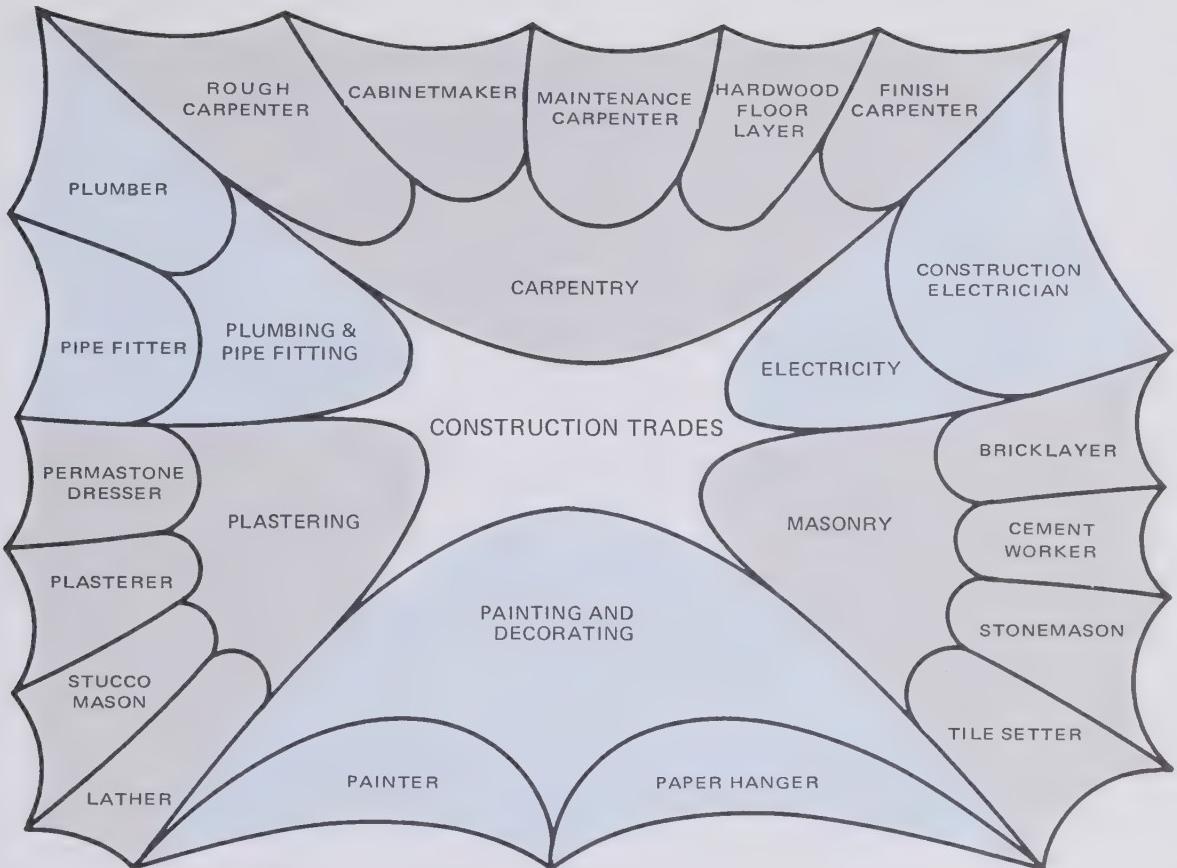
One cluster of careers in the building industry is with the Manufactured Housing Institute. They represent about 25,000 firms and businesses in the United States and Canada. They identify five subclusters within their career cluster. These are listed in 13-4. Each subcluster can be divided into individual

## TYPES OF LIVING UNITS

LIVING UNIT	DESCRIPTION
Young single	Does not want to bother with problems of upkeep; probably lives in a rented apartment.
Adult single	Over 30 years old; is practical, often wants to buy larger home than needed because it is likely to go up in value.
First home buyers	Younger family moving out of apartment into first house; economy and room to grow are important.
Family moving up	Has growing needs as well as income; may be planning to have more children.
Established family	Stable needs, income; size of family will remain constant for many years.
Luxury family	Has large annual income; seeks very finest housing family can afford.
Single adult family	Only one adult (unmarried or formerly married); children still growing.
Compact family	Only one child.
Compacting family	Has children who have already left or soon will.
Never nested	Have no children and never plan to.
Empty nesters	Middle-aged couple whose children are all on their own.
Active retirees	May not work but definitely are not sedentary.
Nonactive retirees	Does not move about much any more; needs can be met in limited housing.

*13-1 Every type of living unit has its own housing needs.*





*13-3 A career web for construction trades shows related areas of work and kinds of workers needed.*

CAREER CLUSTER	SUBCLUSTERS
Manufactured housing	Manufacturers -- more than 900 manufacturing plants in USA and Canada Mobile Home Trade Associations (National and State) -- more than 60 Associations in USA and Canada Manufactured house suppliers -- more than 1000 major suppliers in USA and Canada Manufactured house dealerships -- more than 10,000 dealers in USA and Canada Mobile Home Parks -- more than 13,000 rated parks in USA and Canada

*13-4 The career cluster related to the manufactured housing industry has five subclusters and many job opportunities.*

jobs. The jobs offered in the subcluster of mobile home parks are listed and described in 13-5. Do you think you might enjoy a job working in a mobile home park like the one shown in 13-6?

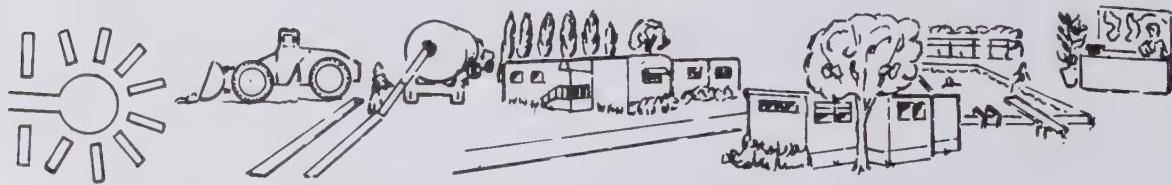
Look at 13-7, 13-8 and 13-9. These illustrations show career clusters in other areas related to housing.

### Career information

Many kinds of careers are a part of the vast housing industry. Special skills and training are needed to carry out the assigned tasks of each one. When you think about possible future careers, you need to know what

qualifications are needed for the different kinds of jobs. You also need to know what the job is like and what would be expected of you if you had the job.

Usually school counselors can provide you with job descriptions and a list of qualifications that are needed for the jobs. Sometimes this information can be obtained from a vocational teacher. Libraries are another source of career information. They have many publications dealing with careers. Two such publications are the *Dictionary of Occupational Titles, Vols. I and II*. (Washington, D.C., U.S. Dept. of Labor) and the *Occupational Outlook Handbook* (U.S. Dept. of Labor,



POSITIONS IN THE SUBCLUSTER OF MOBILE HOME PARKS

JOB TITLE	WHAT PERSON DOES
Developer	Obtains satisfactory zoning. Leases or buys land in order to build a mobile home park. Hires land planners, architects and engineers to design a park. Installs water and utility connections. Builds streets, foundations, service and recreational buildings. Prepares site for each home.
Park manager	Supervises all functions of park operation. Maintains services and contact with home owners. Collects rent. Plans activity program for residents in a "service" or retirement park.
Social director	(Sometimes position is combined with that of park manager.) Plans activity program for park residents.
Office administration clerk/typist secretary accountant	Does clerical work, typing and filing. Takes dictation, does typing, filing and perhaps purchasing of supplies. Controls all accounting systems and procedures including payroll, accounts receivable, accounts payable, insurance. Prepares tax report and financial statements.
Maintenance manager/groundskeeper	Keeps lawns and grounds clean. Maintains service buildings such as community pool, laundromat and office. Assists home owners in certain home repairs.
Advertising and public relations manager	Found in large parks only. In most instances, the job is probably combined with the park manager's. Determines advertising program and media to use in cooperation with manager's recommendations. Maintains good public relations with community and park residents.

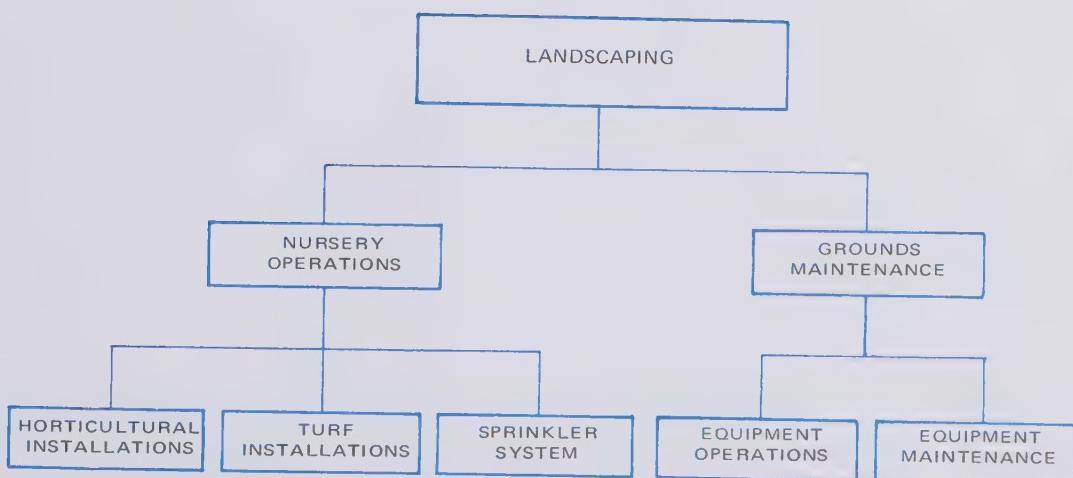
13-5 Many skills and personal qualities are needed to run a mobile home park.

MANUFACTURED HOUSING INSTITUTE



MANUFACTURED HOUSING INSTITUTE

13-6 A mobile home park offers many job opportunities.



13-7 All jobs in this career cluster are related to landscaping.

Bureau of Labor Statistics). Most libraries have many additional sources of career information. They may have sets of job guides or career briefs that tell about specific jobs. These include information such as:

- Definition of the job title.
- List of duties.
- Personal qualifications needed.
- Education and training needed.
- How and where to receive the education and training needed.
- Future outlook on employment.
- Earnings.
- Opportunities for advancement.
- How and where to find a job.
- Related careers.

Ask your librarian for help in finding the career information you need.

## JOB DESCRIPTIONS

The biggest questions when considering careers are "What is available?" and "What is that job like?" *Job descriptions* provide the answers to those questions.

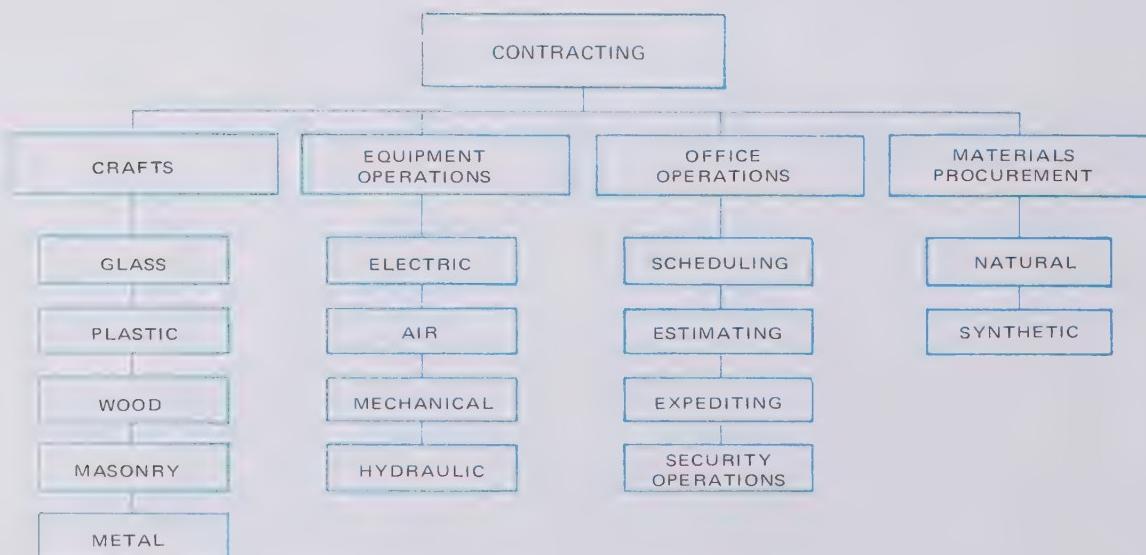
### Architects

An architect's job is to design buildings that satisfy people. Such buildings must be safe, attractive and useful. But there is more to the job than design. Architects must be sure that the proper materials are used and that the builder follows the plans.

The financial rewards of architecture are great, but the training period is long and the work is exacting. The course takes five years and leads to a bachelor's degree. Each state requires a two-day examination before licensing. Becoming established often takes many years of hard work and experience.

### Landscape architects

Great sums of money are spent to beautify the outside of both single-family and multi-family structures. Landscape architects work with organizations, committees, governments, private firms and individuals. Their work entails planning the placement of trees, shrubs, walkways, parking lots and open areas around buildings. They usually study four or five years in college. Required courses include



13-8 The career cluster of contracting has a wide variety of job opportunities.

surveying, sketching, horticulture, landscape construction, botany, English, science and mathematics. About half the states require licensing.

### Drafters

Working from an architect's sketches, instructions and calculations, a drafter prepares the detailed *working drawings* used by the builder. These drawings tell what materials to use, give exact dimensions and specify what and how much work is to be done by the contractor or builder.

Drafters must be able to produce neat and accurate drawings using compasses, dividers and other drafting equipment. A knowledge of construction is needed as are patience, good eyesight and a steady hand.

Particularly in large firms, drafters may specialize in certain aspects of the job. One such specialist is the architectural illustrator. He or she prepares the presentations and renderings that are used in brochures or shown to clients who want to know how the finished structure will look.

### Modelmakers

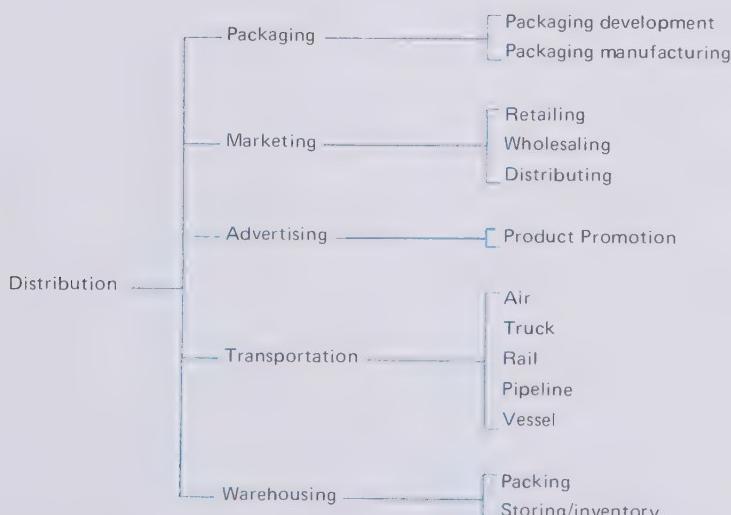
To help clients visualize large projects, an architect may have a scale model of the project built. A modelmaker will be hired to do this. Most modelmakers are self-employed. Necessary skills include being able to read and interpret blueprints, to use scales, to visualize drawings in three dimensions and to do precision work while shaping materials in miniature.

### Surveyors

Using various tools, the surveyor locates corners and boundaries of tracts of land. Instrument findings are used to draw a map of the surveyed area.

Assisting the surveyor are other workers. *Instrument workers* adjust and operate the surveying instruments. *Chain workers* measure distances between survey points. *Rod workers* use a level rod and range pole to help measure distance and angles. Surveying involves outdoor work with much walking while carrying heavy instruments. Knowledge of mathematics is essential.

### CLUSTER FOR MANUFACTURING (DISTRIBUTION)



13-9 *The distribution of manufactured products for housing offers many types of positions.*

## **Engineers**

Engineers are educated in programs leading to bachelor of science degrees. Engineers whose work is related to housing take courses in mathematics, blueprint reading, drafting, physics, humanities and English. Four or five years might be spent in preparation, depending on the school.

In many cases, the architect may assume the tasks of determining the ability of the building to withstand stresses. But as structures become larger and more complex, the *structural engineer* is asked to advise the architect on design for safety and strength. This person estimates the weight the building must carry, the pressure of air movement against the sides and roof, pressures against the foundation and extraordinary pressures from earth tremors. Many structural engineers are self-employed; others are employed by large engineering or architectural firms.

*Mechanical engineers* are concerned with the design of equipment for plumbing, heating, ventilating and air conditioning. They plan the way this equipment will be used in buildings and oversee its installment.

*Civil engineers* are responsible for preparing the site. They level the land, design drainage and sewer systems, and lay out streets, driveways and sidewalks. Another part of their work is to study the soil of the site. They must know how much weight it will support without settling. Many civil engineers work for federal, state and local governments. Others are employed by housing developers.

*Electrical engineers* plan the electrical services needed for the operation of household appliances such as ranges, washers, dryers, air conditioners and furnaces. Their calculations are included in the working drawings supplied to the builder.

## **Construction careers**

A small army of skilled people provide the human power that is spent building an average dwelling. These people include the estimators, masons, carpenters, plumbers, plasterers, electricians, drywallers, roofers and, flooring specialists. Training is obtained on the job, in

vocational schools or in apprenticeship programs. Many are employed by builders and contractors. Others have their own businesses.

*Estimators* study the working drawings and determine how much the building will cost in materials, labor and overhead. In large construction projects, this person may be an expert in the engineering field. In such cases, he or she is called a *construction cost engineer* or a *cost analysis engineer*. Estimators must be knowledgeable about materials, methods and costs of construction. Some estimators have a background in construction work. Others enter the field after training programs beyond high school.

*Masons* and *cement workers* set up forms for footings, foundation walls, patios and floors. See 13-10. They place concrete and use various hand and power tools to smooth and finish it. They must know the materials and be familiar with cement additives which speed or retard the setting of concrete.

*Bricklayers* and *stonemasons* build walls, partitions, fireplaces, and other structures. They use brick, block and stone as well as other natural or manufactured materials. They work with hand tools for the most part. Reading working drawings and making careful measurements are among the important skills they must master. Bricklayers must also be able to construct various bonds (patterns), to use accepted construction methods for safety and reinforcement and to work rapidly and neatly.

*Carpenters* put up the wooden framework in buildings. They install windows, doors, cabinets, stairs and paneling, 13-11. They also lay hardwood floors, asphalt and other types of rigid flooring materials. Some specialize: rough carpenters build only the framework or set up the concrete forms; finish carpenters install millwork, cabinets, stairs, etc. Some carpenters learn the work on the job; others prepare through special vocational programs.

*Electricians* are people who install wiring in new constructions and make repairs on older wiring systems. The electrician must know how to read the electrical diagrams in the builder's working drawing. In addition, a



13-10 Cement workers may build footings, walls or a whole framework of concrete.

ASSOCIATED GENERAL CONTRACTORS OF AMERICA



13-11 This carpenter is working on a module for a factory-built house.

AMERICAN PLYWOOD ASSOC

knowledge of electrical codes and electrical loads is essential. See 13-12.

*Floor covering installers* put down or replace resilient tile, vinyl flooring, and carpeting. 13-13. Their work may include removing an old covering and sanding and cleaning the surface to be covered. They must be able to read architectural drawings and to measure, mark and cut accurately.

*Painters* apply paints, varnishes and other finishes to decorate and protect surfaces. Painting involves surface preparation by scraping, burning with a torch, sanding, washing, priming and sealing. Then a new painted surface is applied with brushes, rollers, pads and sprayers. See 13-14.

*Paperhanglers* attach decorative paper or cloth to walls and ceilings. Sometimes they must first remove old wallpaper by soaking or steaming it, and sometimes minor patching of plaster is done. Then they prepare the wall surface by cleaning it and applying sizing. The sizing makes the surface less porous. Workers measure, cut and hang materials, applying paste as needed.



B.F. GOODRICH CHEMICAL CO

13-12 An electrician "wires up" a circuit breaker panel in a large multi-family structure.

*Roofers* apply shingles and other protective materials to make roofs weatherproof. See 13-15. They may also apply waterproofing to walls and other parts of the building. Roofers use a variety of materials including wood or asphalt shingles; hot tar and gravel; slate; tile; and aluminum, copper or steel.

*Plumbers and pipe fitters* install pipe systems that carry water, steam, air or other liquids and gases. They also install plumbing fixtures, appliances, and heating or refrigeration units. They will install piping between walls and under floors during early stages of construction. Then they will return during final construction stages to attach fixtures and install appliances.

*Plasterers* and *drywall installers* finish the framed walls with plaster or with smooth sheets of plaster-like material. Their methods differ, but their results are much alike. Plasterers apply wet, cement-like material to the wall in successive coats using trowels and other hand tools to smooth it.

Installing drywall is a task that is done in two steps. Installers attach large sheets of drywall to the walls and ceilings of rooms and nail or glue them in place. Finishers then apply special mastics and perforated tape to conceal joints and nail heads after the drywall is attached. See 13-16.



AZROCK FLOOR PRODUCTS DIV.  
13-13 Floor covering installers work with a variety of flooring materials.



WILLIAM ARMSTRONG SMITH CO

*13-14 Painters work both inside and outside, usually with hand tools.*



GOLD BOND BUILDING PRODUCTS

*13-16 Drywall finishers conceal joints and nail heads in walls and ceilings.*



GEORGE GALE

*13-15 Roofers must enjoy working outside and cannot be afraid of heights.*

### **Construction machinery operators**

Handling dirt or heavy construction units would be difficult, if not impossible, without heavy machines to lift and carry them. These machines are controlled by skilled workers who are often called "operating engineers." They are at the controls of cranes, 13-17; bulldozers; backhoes; forklifts, 13-18; pavers; and trucks. Good eyesight and coordination are required. Unless carefully controlled, such equipment could endanger the lives of other construction workers.

### **Real estate**

Careers in real estate include many kinds of tasks such as renting and managing property for clients, making appraisals on property, developing new building projects, and arranging loans for home buyers.

The most common career in the field of real estate is the realtor, 13-19. He or she helps people buy, sell, rent and lease property. Realtors must be familiar with their communities, with real estate laws, with banking laws and with building codes. A license is required by all states and is issued only after successful completion of a written test. Most realtors have a college background although it is not a requirement. Needed personality traits include a pleasant disposition, honesty, neatness, tact, enthusiasm and maturity. A good memory for names, faces and facts is helpful.

### **Interior designers**

Interior designers or decorators plan and supervise the design and arrangement of building interiors and furnishings. They work from blueprints to make floor plans to scale and to prepare elevation drawings. Their drawings help clients visualize how the rooms will look.

Interior designers work for either individual clients or for firms which sell furnishings or decorating services. They select and estimate costs of furniture, floor and wall coverings and accessories, 13-20. When plans are approved, the designer may arrange the purchase of furnishings and hire and supervise various workers.

Three or four years of training in a professional school are required. Courses include principles of design, history of art, freehand and mechanical drawing, painting, furniture design and textiles. A knowledge of antiques, art pieces and furnishings is also needed.

### **Salespersons and consultants**

Retailers of building materials, appliances and home furnishings hire persons with a background in housing and furnishings. Their job is to demonstrate and sell their employer's products.

Some firms hire consultants who will help customers select the right furnishings, equipment or materials. They also advise customers on installation and use of the products. Such personnel need to understand design, materials and methods.

### **Secretaries and stenographers**

No business could operate efficiently without the assistance of secretaries, stenographers and office workers, 13-21 and 13-22. The smaller the firm, the more their duties vary.

Work might include typing, filing, filling out reports, taking dictation, handling visitors and phone calls, scheduling appointments, bookkeeping, and operating duplicating equipment and blueprinters. Many secretaries function as special assistants to architects, engineers, builders and contractors.

### **Occupations with utility companies**

Utility companies that supply electricity, gas and telephone services offer job opportunities related to housing. Gas and electric companies, for example, employ consultants who advise consumers on appliances. This requires not only knowledge of the product but sales ability as well. Department stores and large chain stores often have a public relations department in which people prepare materials on proper selection, use and care of furnishings and appliances.

Service persons are hired by private firms or utility companies to repair and adjust appliances.



AMERICAN PLYWOOD ASSOC

**13-17** A crane operator works carefully to avoid damage to this building module or injury to other workers.



TOM KIRBY ADVERTISING FOR BULLOCK CO

**13-18** A forklift operator and helper are lifting a section of a modular home onto a trailer for delivery to a site.



GEORGE GALE

**13-19** Realtors must know many things about the dwellings they show to clients.

Telephone companies employ *phone installers* and *line workers* to install equipment and lines and to keep them in repair.

The list of job descriptions becomes even longer when you consider the many other areas related to housing. Is there a position that appeals to you? Do you know the qualifications? Can you become qualified?

## CAREER LEVELS

You can see that career opportunities related to housing are many and varied. They do not all carry the same amount of responsibility nor require the same qualifications. Career opportunities can be divided into three levels:

1. The professional level.
2. The mid level.
3. The entry level.

### Professional level positions

Some of the people who help provide housing work on a *professional* level. Generally a college degree is required for these jobs. Special training and experience may be needed in addition to a degree.

Those in professional careers related to housing influence the quality of life for themselves and others. They make decisions that affect the lives of individuals, families and whole communities.

Architects, engineers and interior decorators are a few of the people with professional level positions. Land use planners are also professionals. They work in both urban and rural areas. Wherever they are, they consider the needs and values of people using land. They also consider those who are affected by the way land is used. Will a certain use of the land pollute the environment? If so, what effect will the pollution have on those using the land or what is built on the land? How will those living nearby be affected? Will it make a difference to those who pass by? How will it affect future generations? These and other questions will be considered as decisions are made by land use planners.

### Mid level positions

Professionals are key people because they make decisions that affect the work of others. But they need others to support them in their choices. The people who help carry out decisions that have been made are called *supportive personnel*.

While people in mid level positions are often supportive of professionals, their work sometimes involves supervising people in positions that carry less responsibility, 13-23.

For example, housing construction supervisors oversee the work of others. They usually do not do the wiring, plumbing or roofing. However, they need to know how to do these things to determine if others are doing their jobs correctly.

The mid level of career opportunities is very broad, and it has many sublevels. Thus, many people who work under a supervisor are also in mid level positions. Others include carpenters and lighting specialists. The fact that they are supervised does not make their work any less important.

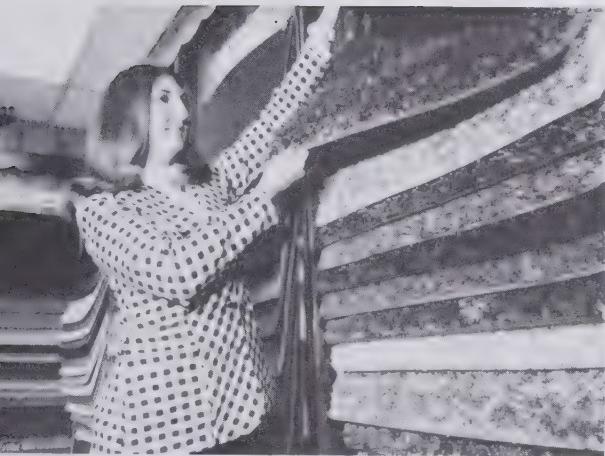
Those in mid level positions are expected to have schooling beyond high school. It may be through a special class or by service as an *apprentice*. (An apprentice is one who is going through an organized program of job training that is coupled with vocational classes.)

### Entry level positions

People in *entry level* positions are supportive of those in both professional and mid level positions. The qualifications for entry level positions are not high. You can enter a career area and be successful with less preparation than at the other levels. You are likely to learn much of what you need to know on the job. There is often opportunity to move up if you do your job well.

Some of the entry level positions related to housing include helpers or aides. They might help a mover, an upholsterer or a carpenter, as shown in 13-24. There are entry level jobs in every career area.

A few entry level positions still do not require a high school education. However, you are more likely to be sure of securing a



WESTPOINT PEPPERELL

*13-20 Interior designers help clients coordinate draperies, upholstery, carpeting, furniture and accessories for a home.*



*13-22 Office workers in smaller companies are called upon to perform a great variety of jobs.*



DAVE KNOX

*13-21 This office worker is employed by an architectural firm. One of her tasks is to operate a blueprint machine.*



TOM KIRBY ADVERTISING FOR BULLOCK CO

*13-23 People who supervise assembly line employees are in mid level positions.*

position if you finish high school. Some courses that are related to housing careers are identified in 13-25.

Does your school have a program in *cooperative education*? (These offer opportunities to work part-time and attend classes part-time.) You may be able to secure a job through this kind of program. It will probably be an entry level position. You will receive training on the job. You will also receive help from a teacher in your school.

### Career ladders

When the jobs in a career cluster are "stacked" according to the qualifications they require, they form a *career ladder* or a *career lattice*.

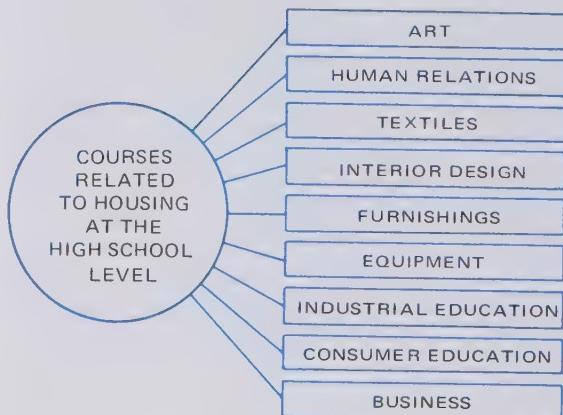
A career ladder shows the steps from entry level jobs to mid level or professional level ones. You can climb a career ladder by



GEORGE GALE

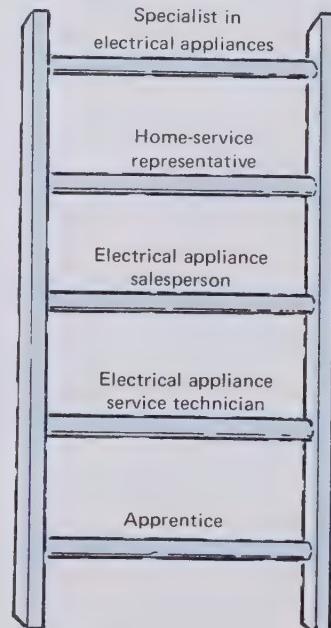
13-24 Entry level workers may have specific jobs such as cutting and placing lumber that has been previously marked by another carpenter.

### COURSES RELATED TO HOUSING



13-25 How many of these courses are offered in your school? Are there others related to housing?

### HOW TO BECOME A SPECIALIST IN ELECTRICAL HOUSEHOLD APPLIANCES



13-26 This career ladder shows the steps to take from an entry level position to a mid level position.

gaining more knowledge and experience. Study the career ladders that are shown in 13-26 and 13-27.

A *career lattice*, 13-28, shows that you can move in more than one direction as you change jobs within a career cluster. You can move either up or across the lattice. You may even be able to move at an angle – both up and across at the same time.

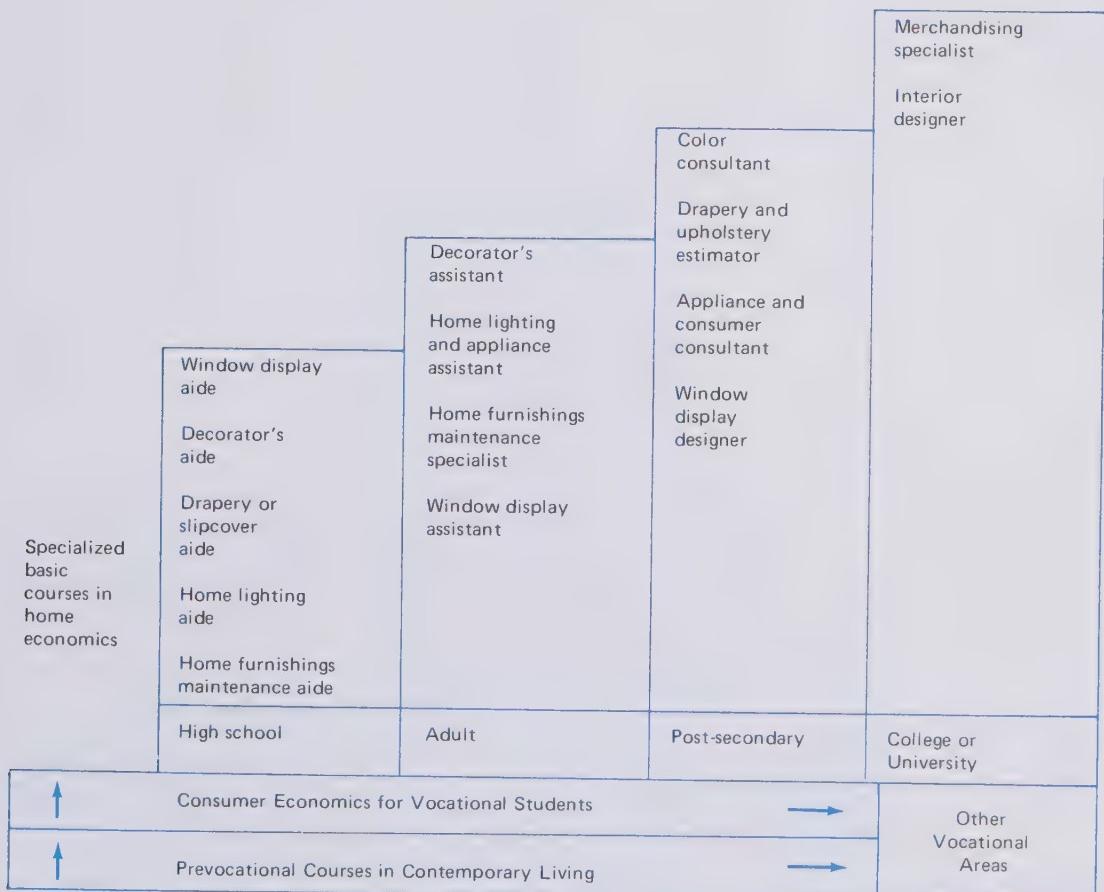
The terms *open entry* and *open exit* are sometimes used to describe moving on a

career lattice. They mean that you can enter at any level for which you are qualified and that you can move across to any other position for which you are qualified.

## QUALITIES FOR SUCCESS

Did you notice the magic word that determines your place on a career ladder or lattice? It is the word *qualified*. You become qualified by learning *job skills*.

## LADDER FOR HOME FURNISHINGS SERVICE



*13-27 There may be more than one position on each step of a career ladder. Education can help you climb a career ladder.*

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## Job skills

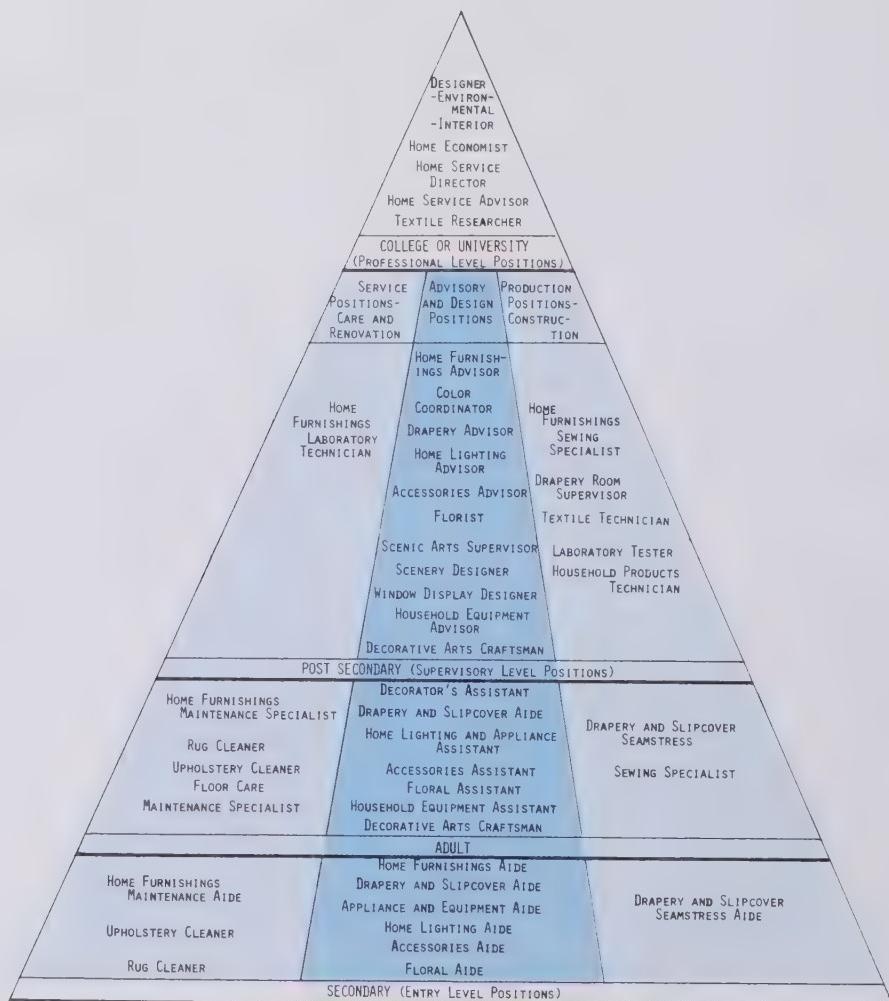
Any job you do requires some skills. If you are *competent* on a job, you can perform each skill well.

Suppose you own a lawn mower and take a job mowing lawns. Some of the job skills you will need to perform include:

- Moving large objects out of the way.
- Adjusting the mower to the desired height.
- Refueling the mower engine.

- Starting the mower engine.
- Mowing the grass evenly.
- Shutting off the mower engine.
- Catching or raking the grass clippings.
- Trimming and edging grass.
- Disposing of trash.

Each of these tasks involves detailed steps that are often taken in a certain order. If you were *task detailing* or listing the details for refueling the mower engine, what would you



13-28 The career lattice shows horizontal and vertical changes you can make within a career cluster.

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list first? Can you list the details in the order they should be done? Try listing the detailed steps for other tasks listed.

You can learn job skills by working with someone else on the job. This is especially true of entry-level jobs. Other places to learn job skills are in school and training programs.

### Personal qualifications

You need to have an interest in your job. Sometimes a special interest helps to make you qualified for a position. If you like art and have a special talent for it, you may qualify for a job that requires artistic abilities.

Many housing careers require artistic ability. Architects, landscape architects, furniture designers and textile designers all work with art.

Your personal *preferences* or what you like help to determine your qualifications. Do you like to work alone? Or do you prefer to work with someone else? Examine the career clusters in this chapter and find positions in which you would probably work alone much of the time. Then find ones in which you would work with others. Which ones appeal to you more?



GEORGE GALE

13-29 This estimator works for a utility company. One of her jobs is to help builders decide whether to use underground or overhead electrical service in new houses.

Do you enjoy being outdoors? Or would you rather stay inside? One of the housing careers that would require you to spend a great deal of time outside is shown in 13-29.

What kind of life-style appeals to you? Do you like to sleep late in the morning? Can you work best during the day or during the night? Will your career choice let you spend as much time away from work as you would like? Are you work-oriented? Do you want your career to be the focal point of your life? Are you willing to work evenings and weekends?

### Working conditions

When you are looking for a job, you will want to know about the working conditions. Then you will know what to expect. Some of the conditions that you should find out about include the following:

- Physical surroundings. Where will you be working? Is the place clean and safe?
- Work schedule. What are your working hours and days?
- Pay scale. How much will you be paid? Does everyone doing the job you are doing get the same pay? On what is the pay increase based?
- Advancement. Is there opportunity for advancement? How soon and how often can you expect to move up the ladder? Are there special expectations of you before you advance?
- Fringe benefits. Are there insurance benefits? How much sick leave is granted during the year? Does it accumulate? Is there personal or emergency leave? Are training programs provided? Is there a credit union?
- Dues and fees. Will you be expected to join a union or other organization? If so, what are the costs? Will it require some of your time?

You may also want to find out about public transportation to and from work. Or if you drive, where will you park your car? Are there eating facilities nearby? Are rest breaks provided? The conditions under which you work have a great affect on the amount of enjoyment you receive from your job.

# *to* Know

apprentice . . . career cluster . . . career ladder . . . career lattice . . . career levels . . . career web . . . competent . . . cooperative education . . . entry level positions . . . fringe benefits . . . job descriptions . . . job skills . . . mid level positions . . . personal qualifications . . . professional level positions . . . subclusters . . . supportive personnel . . . task detailing . . . working conditions

# *to* Review

Write your answers on a separate sheet of paper.

1. (True or False) People who work in the building industry provide all that is needed for a good housing environment.
2. Define a career cluster.
3. List three sources of career information.
4. Name four career areas related to housing.
5. Write a job description for a position in a career related to housing.
6. Name one position in each of the career levels:
  - a. Professional level.
  - b. Mid level.
  - c. Entry level.

7. People who help carry out decisions that have been made by higher authorities are called \_\_\_\_\_.
8. Define the term apprentice.
9. What is the difference between a career ladder and a career lattice?
10. \_\_\_\_\_ are the abilities you need to perform well on a job; \_\_\_\_\_ include interest, natural talents and personal preferences.
11. List five things you should know about working conditions before you decide to take a job.

# *to* Do

1. Arrange jobs related to housing into career clusters. Use current editions of *Dictionary of Occupational Titles* and *Occupational Outlook Handbook* to find job descriptions.
2. Examine telephone directories to identify businesses that are related to housing.
3. Look through the classified advertising section of your newspaper. Find ads that are seeking employees in positions that help provide housing.
4. Make a collage using advertisements, pictures and news articles about careers related to housing.
5. Choose a career related to housing that interests you. Research it further, and report to your class on it.
6. Draw a career ladder in the area of your interest. Begin with an entry level position and progress to a professional level position.
7. List the courses in your school that help prepare students for housing careers.
8. Ask your school counselor to give you an aptitude test. Determine which types of housing careers offer the best chances for you to succeed.
9. Write a feature article for your school or local newspaper telling about a career related to housing.
10. Write, call or visit a local firm that employs people in housing careers. Find out employer expectations and working conditions.
11. Interview persons who have jobs related to housing. Find out what they like and dislike about their jobs.
12. Have a class discussion about attitudes in the “world of work.” Determine which attitudes lead to success on the job and which do not.
13. Visit a local employment service to find out what careers related to housing are available in your area and across the nation.

## *Appendix A*

# **Housing legislation**

*Government plays an important role in the field of housing. The following list of major legislative acts provides a brief look at how housing is affected by government.*

The housing program of today did not happen suddenly. Its history goes back many years. The major developments are listed below.

1892 – Congress appropriated \$20,000 for the Secretary of Labor to investigate slums in cities of over 200,000 population. The study noted close correlation of saloons and slums.

1918 – U.S. Housing Corporation was established to provide housing for war workers.

1932 – President Hoover's Conference on Home Building and Home Ownership discussed the decline in building and shrinking mortgage credit.

1932 – As a result of the Conference, the Federal Home Loan Bank Act of 1932 was passed. This act established 12 district Federal Home Loan Banks as the framework of a reserve credit organization for home financing institutions. It failed in its purpose to provide an adequate volume of funds of mortgage credit.

1933 – Home Owners' Loan Act of 1933 set up a corporation to refinance the mortgages

of distressed home owners. It financed over one million mortgages in three years, investing three and a half billion dollars in the process. It was considered quite successful.

1934 — The Housing Act of 1934 created the Federal Housing Administration (FHA), an agency that still exists today. It also set up the Federal Savings and Loan Insurance Corporation to protect deposits. FHA revolutionized home financing methods by making possible lower interest rates and longer amortized mortgage periods. Improvements in housing standards were also brought about by setting up minimum physical property standards as a basis for FHA participation.

1937 — The Housing Act of 1937 started the public housing program with the objective of providing decent, sanitary housing for low-income families. It also laid the groundwork for slum clearance by empowering housing authorities, when permitted by state and local law, to issue bonds and to become eligible for federal loans to cover up to 90 percent of the costs of combined slum clearance and new low-rent public housing construction. The Act set the principle of basing rental payments on the individual family's ability to pay. It provided for annual subsidy contracts whereby the federal government pays the difference between costs of managing the project, including debt amortization, and the rental revenues received.

1940 — Lanham Act provided for federal financing of war housing. Two million dwelling units were built under this Act during the war.

1942 — The National Housing Agency created by executive order was the first attempt to coordinate all federal housing programs.

1946 — Veteran's Emergency Housing Act was passed. It established the VA program for mortgage insurance.

1947 — The Housing and Home Finance Agency was created by the President's Reorganization Plan No. 3. The Federal Housing Administration, the Public Housing Administration, and the Home Loan Bank were all brought under the supervision of the Housing Administrator.

1949 — Many cities and states were attempting to deal with the slum problem, and different renewal-type efforts were made. They usually fell short of their goals for lack of money. As a result, the desire for federal assistance was made known to Congress from the major cities all over the nation. From this experience came the Housing Act of 1949 with its now well-known title of a "decent home and suitable living environment for every American family." To support this effort, the Act permitted, for the first time, that land areas cleared with federal aid could be sold or leased to private developers for residential development. It gave recognition to the fact that private financial resources must be attracted to the housing field if the broad objective of the Act was to be realized. The 1949 Act became the symbol of the joint effort between public and private interests to clean and redevelop the slums and decently house the population.

1953 — President Eisenhower established a special committee on government housing policies and programs. Members of the committee were a cross section of leadership from the major business, financial, and civic interests of the country. This committee's efforts were reflected in the 1954 Housing Act. The objective was to create a total program against slums and blight. Their conclusion was that federal assistance should be available only to communities willing to undertake a long-range program of slum prevention through sound general planning and enforcement of housing and building codes. This became the basis for the Workable Program.

1954 – The Housing Act of 1954 incorporated the many recommendations of the President's Committee. Besides the Workable Program, it established the Urban Planning Assistance Program, sometimes called the 701 Program. It added a great stimulus to public acceptance of the comprehensive plan and the planning process. The Act also established the concept of rehabilitation by recognizing the desirability of retaining and improving essentially sound structures in an urban renewal area. It recognized, for the first time, the need for nonresidential urban renewal projects to attack blight in business and industrial areas. It stated that 10 percent of all funds could be designed for nonresidential urban renewal projects. Today, however, this figure stands at 35 percent, indicating the trend of the program toward more comprehensive renewal treatment. This Housing Act also instituted the demonstration grant program, whereby the federal government would participate in some research-oriented projects. The 1954 Housing Act was an extremely significant piece of legislation in the housing and urban renewal field because it oriented the program toward the comprehensive goal of urban revitalization, rather than the single goal of good housing.

1956 – The Housing Act of 1956 established relocation payments for families and businesses; aid for housing the elderly; and the General Neighborhood Renewal Program. The GNRP was an urban renewal plan for areas too large for a single project.

1959 – The Housing Act of 1959 further extended the urban renewal program and created the Community Renewal Program (CRP). This grew out of the need for a comprehensive, long-range programming of a city's renewal activities, both public and private, closely tied to capital financing and land economics. The Act also established special credits for college and university urban renewal projects.

1961 – The Housing Act of 1961 shifted more of the financial burden from local communities to the federal government. In cities with less than 50,000 population, the federal government would pay three quarters of the net project costs. This reduction of local financial obligations to a point where the locality put up just one dollar out of every four made the program almost irresistible for any city that was willing to fight the problems of blight. The Act also established the Open-Space Program and the Mass Transportation Program, and it greatly liberalized various programs of the Federal Housing Administration.

1964 – The Housing Act of 1964 authorized code enforcement urban renewal projects intended to attack the beginnings of blight in basically sound areas. To reinforce this technique, special low-interest loans for residential rehabilitation were also authorized. The Act also liberalized relocation procedures and aid. One significant feature of the Act was that for the first time, air rights development (for low and moderate income housing only) qualified for urban renewal, thus expanding the range of approaches to urban improvement.

1965 – The Housing and Urban Development Act of 1965 provided for the formation of a cabinet-level Department of Housing and Urban Development (HUD). The Act authorized a variety of new approaches to urban improvement, including grants for neighborhood facilities, demolition grants, grants for public works and facilities, grants for urban beautification, grants to low-income home owners for rehabilitation, and municipal grants for open spaces. It set new public housing policies such as rent supplements, leased private housing, and purchase of existing units. The code enforcement "renewal project" of the 1964 Act, having proved unworkable, was revised as an "aid program." Requirements for General Neighborhood Renewal Plans were expanded to permit inclusion of areas which, though not

eligible for project activities, contained related problems. The Workable Program was tightened considerably by the addition of a requirement that it be of sufficient scope and content to furnish a basis for evaluating project need.

1966 – The Demonstration Cities and Metropolitan Development Act of 1966 authorized the Model Cities Program to rebuild or restore extensive slum and blighted areas. The act stated that physical and social development programs should be coordinated, using local private and governmental resources. The original emphasis on renewal of housing was reasserted in the Act. It required the provision of a substantial number of low and moderate-cost standard housing units in the development of an urban renewal area. This rule did not apply when redevelopment was for predominantly nonresidential uses. As incentives for the Model Cities Program and for coordinated metropolitan planning, supplemental federal funds were authorized. In certain cases, federal contributions to urban improvement projects could amount to 80 percent of total costs. Other significant features of the Act included “new town” development through FHA financing; a new FHA sales housing program for low-income families; grants for surveys of structures and sites to determine historical value; a liberalized noncash policy permitting up to 25 percent of the cost of a public building; and authorization of air rights projects for industrial development.

1968 – The Housing and Urban Development Act of 1968 was considered to be the most important piece of housing legislation since the 1949 Act. It added two new programs to house low and moderate income families whose incomes were above the level of public housing. Under the Home Ownership for Lower Income Families Program, the government helped to pay the cost of the home mortgage and the mortgage interest of the housing project sponsor. This permitted

the sponsor to charge lower rents.

Other significant features were:

1. Provisions that relaxed mortgage insurance in urban neighborhoods.
2. A special FHA risk fund for mortgages in declining urban areas.
3. Credit assistance to enable low income families to become eligible for mortgage insurance.
4. Assistance to private developers of new towns.
5. Creation of a new approach to renewal, known as the “Neighborhood Development Program” which provided more flexibility in planning and permitted staged development on a one-year basis.
6. An increase in rehabilitation grants from \$1500 to \$3000.
7. Authorization to close out a renewal project when only small parcels of land remain.
8. Aid in alleviating harmful conditions in blighted areas where renewal action was programmed, but immediate action was needed before renewal could be started.

1970 – The Housing and Urban Development Act of 1970 extended and amended laws relating to housing and urban development. The Act authorized the establishment of a national urban growth policy to encourage and support orderly growth in populated areas. It gave emphasis to new community and inner city development, encouraging the coordinated effort of state and local governments. Some specific features of the Act include provisions for parks, especially in low-income areas; preservation and restoration of historic and architectural sites; and curbing urban sprawl and spread of urban blight.

1970 – The Federal Equal Housing Opportunity Council was established by the Office of Fair Housing and Equal Opportunity. Representatives of 50 federal departments and agencies participated. They coordinated efforts to assure all persons, regardless of race, creed, sex or national origin, equal and

unhindered access to the housing of their choice.

1974 -- The Housing and Community Development Act provided funds that went directly to the general local government. These funds were in the form of "community development block grants" (CDBG). They were provided to begin or continue urban renewal or neighborhood development programs. The funds could be used for the following:

1. To eliminate slums and blight.
2. To remove conditions that were rundown, unhealthy or unsafe.
3. To help in new housing construction or the rehabilitation of old housing.
4. To provide housing counseling and other community services.
5. To provide community service centers such as commercial areas, recreational areas, parking spaces and multipurpose centers.
6. To promote the integration of various income groups.

Benefits were directed mainly toward low and moderate income families. They were assisted in securing decent, safe and sanitary housing.

1974 -- Community Service Act of 1974. This law abolished the Office of Economic Opportunity and replaced it with the Community Services Administration. The Community Services Administration is responsible for carrying out community action programs. It is also responsible for the senior citizens opportunities and services program and for rural housing.

1974 -- The Emergency Housing Act of 1974 authorized HUD to buy up \$7.75 billion in mortgage loans at below-market interest rates so lenders could offer mortgages at subsidized interest rates. The Act was extended in 1975.

1974 -- The Real Estate Settlement Procedures Act was designed to give consumers

more information about costs connected to buying or selling a home.

1974 -- The Solar Energy Research, Development and Demonstration Act had two main goals. One was to pursue a vigorous program of research and resource assessment of solar energy as a major source of energy for the nation. The second goal was to provide for the development and demonstration of practical ways of using solar energy on a commercial basis.

1975 -- In order to stimulate a slow housing market, Congress approved a special tax credit for housing purchases. The five percent tax credit, limited to a maximum of \$2000, was available to persons who bought new but unsold dwellings. The credit was available only from March through December of 1975.

1975 -- The Emergency Homeowner's Relief Act of 1975 authorized temporary assistance to help defray mortgage payments on homes owned by persons who were temporarily unemployed or underemployed as the result of adverse economic conditions. The Act made it possible for unemployed persons to retain possession of their homes. It was passed because the nation was judged to be in a severe recession reducing employment opportunities.

1975 -- The Financial Institutions Act of 1975 expanded competition, provided improved consumer services and strengthened the ability of financial institutions to adjust to changing economic conditions. This improved the flow of funds for mortgages.

1975 -- The National Housing Act was amended to increase the maximum loan amounts for the purchase of mobile homes.

1976 -- The Housing Authorization Act of 1976 amended and extended many laws

relating to the fields of housing and commercial development.

1976 – An addition to the Bankruptcy Act made the first changes in municipal bankruptcy laws in 30 years. The addition was prompted by the crucial financial problems of New York City. The bill eased requirements that had made it almost impossible for a city to use bankruptcy proceedings to set priorities and a time schedule for repayments of its debts.

1976 – In September of 1976, HUD began to implement an experimental mortgage payment program that had been approved by Congress in 1974. It allowed the FHA to insure mortgages that required very low payments at first. The payments would increase gradually as the family's income theoretically grew.

1976 – An extension of the National Housing Act included \$850 million for subsidized housing. Of that amount, \$85 million was to be used for the construction of new public housing. The bill also provided a major increase in funding for a housing program for the elderly.

1977 – The Housing and Community Development Act made it easier for people to buy and improve their dwellings. It revised many loan regulations which had become outdated because of inflation. It increased basic FHA mortgage limits to \$60,000. It lowered the basic required FHA down payment to three percent of the first \$15,000 of purchase price and five percent of the amount above that. It increased the ceiling for home loans made by federal savings and loan associations. It provided a new system whereby savings and loan associations will have more money available for larger loans. It increased the limit on FHA Title I home improvement loans to \$15,000 and extended maximum terms to 15 years. It increased mortgage loan limits for purchases of manufactured houses to \$16,000 for single-wide units and \$24,000 for double-wides, and it extended terms for the double-wides to 23 years.

1978 – The Housing and Community Development Amendments provided aid for handicapped persons, elderly persons and low-income persons in rural areas. There were provisions for housing rehabilitation and for helping displaced persons obtain adequate housing.

## *Appendix B*

# *Energy-saving tips*

*Energy conservation has become a topic of national concern. The following list suggests ways individuals can save energy in and around their homes.*

The 70 million households in the United States use almost 20 percent of all the energy consumed in the country.

About 54 percent of the energy used in homes goes into heating and cooling. About 15 percent is used just to heat water. Cooking, refrigeration, washing and drying clothes and dishes, and the operation of other appliances account for the rest.

An estimated 30 percent of the energy used in this country is wasted. Individually and collectively, American families can help eliminate much of that waste by wise use of energy. In the process, they can save energy resources for the nation and money for themselves.

### **Hot weather energy savers**

The familiar slogan, "Don't be Fuelish," applies to wise use of energy for cooling, as well as heating. Energy conservationists should check the insulation of their homes during warm weather to make necessary improvements for cooling energy economy and to prepare for the next heating season. Here are some ways to save energy in summer months:

1. Set air conditioning thermostats no lower than 70 to 80 deg. F (26 deg. C).

- These temperatures are judged to be reasonably comfortable and energy efficient.
2. Run air conditioners only on really hot days. On hot days, set the fan speed at high. In very humid weather, set the fan at low speed to provide less cooling but more moisture removal.
  3. Turn off air conditioning equipment in unused rooms and close them off.
  4. Clean air conditioning filters at least once a month, and replace them when they are worn out.
  5. When buying cooling equipment, buy the smallest size that will do the job.
  6. Turn off as many electric lights as you can, and concentrate the light where it is most needed — in reading and work areas and for safety.
  7. Deflect daytime sun with vertical louvers or awnings or with draw draperies and shades on sunny windows. Keep windows and outside doors closed during the hottest hours of the day.
  8. On cooler days, and during cooler hours, open the windows instead of using air conditioners or fans.
  9. Dress for the higher temperatures. Sports clothes, including shirts with open collars for men and lightweight fabrics for women, are comfortable. They are acceptable almost everywhere during the summer.

### Cold weather energy savers

Residential space heating consumes more than 11 percent of all the energy used in the United States. To save on heating energy and heating costs:

1. Lower thermostats to 65 to 68 deg. F (19 deg. C) during the day and 60 deg. F (15 deg. C) at night.
2. Have your furnace serviced once a year, preferably each fall. Adjustment could mean a saving of about 10 percent in family fuel consumption.
3. Consider the advantages of a clock thermostat which will automatically turn the heat down at a regular hour

before you retire and turn it up just before you awake.

4. If you use electric heating, consider a heat pump system. The heat pump uses outside air in both heating and cooling and can cut electric heating costs by as much as 60 percent.
5. Dust or vacuum the surfaces of radiators frequently.
6. Keep draperies and shades open when the sun is shining. Close them at night.
7. For comfort in cooler indoor temperatures, use the best insulation of all — warm clothing.

### Year-round energy savers

Proper insulation reduces the load of heating and cooling equipment and saves both energy and dollars for the householder. Summer is the best time to insulate. Effective improvements need not be expensive. Consider the following:

1. Caulk and weatherstrip doors and windows. This inexpensive measure, which the householder can do, could reduce the family's fuel cost by 10 percent or more.
2. Install storm windows and doors. Combination screen and storm windows are the most convenient because they do not require removal when the temperature is moderate and open windows are desirable. Conventional storm windows cost about \$20 each, but a sheet of clear plastic film tightly taped to the frames can be equally effective, and the entire cost for the average home would be around \$7. (Renters might prefer this low-cost method.) Either type of protection could reduce individual fuel costs by about 15 percent and make the home more comfortable year-round.
3. Insulate the attic and walls. Install mineral wool, glass fiber, or cellulose insulation to a depth of 6 in. (15 cm) in the attic. Heating costs should drop about 20 percent. Installation of insulation in the walls also yields a large

energy saving but requires special equipment and professional help.

4. Use bath and kitchen ventilating fans only as needed.
5. Be sure the fireplace damper is closed except when the fire is going.
6. Turn off furnace pilot lights in summer.

### Kitchen, laundry and bath

Heating water is second only to heating and cooling residences in energy consumption. It accounts for 15 percent of the energy used in the home and 3 percent of all the energy used in the United States. Conservative use of hot water, therefore, is the basis for these tips:

1. Many electrical appliances, such as clothes washers and dryers, dishwashers, and electric irons, use a lot of energy. Use these in the early morning or late evening hours to lighten the load at power generating stations during afternoon and early evening hours. At these times, the demand peaks, and inefficient generators must be placed in service.
2. Repair all leaky faucets, especially hot water faucets, as quickly as possible.
3. Insulate hot water storage tank and piping.
4. Be sure the dishwasher is full, but not overloaded, before you turn it on. An average dishwasher uses 14 gal. (53 L) of hot water per load.
5. Scrape dishes, but do not rinse them, before loading them in the washer. If rinsing is necessary, use cold water.
6. Let your dishes air dry. After the final rinse, turn off the control knob of the dishwasher and open the door.
7. Use proper defrosting methods for refrigerator-freezers that must be defrosted manually. These appliances consume less energy than those which defrost automatically, but they must be defrosted frequently and as quickly as possible to maintain that edge. Frost should not be allowed to build up more than 1/4 in. (.6 cm).

8. Some refrigerators contain heating elements in their walls to prevent condensation on the outside. These heaters need only be turned on when the air is extremely humid. When buying such a refrigerator, be sure it has a switch to turn off these heaters. Better yet, buy one without heaters.
9. During holidays or other extended absences from home, empty the refrigerator, disconnect it from the power outlet, clean thoroughly, and leave the door ajar.
10. Reduce energy consumption in cooking. Use pans that cover the heating element so that more heat enters the pot and less is lost to the surrounding air.
11. Clean heat reflector below the heating element. It will reflect the heat better.
12. When using the oven, make the most of that heat. Plan meals in which all foods can be prepared in the oven at once. Or fill the oven with other foods that can be reheated later. Use a small heater or small oven for small meals.
13. Check seals around refrigerator doors to make sure they are airtight. If not, adjust the latch or replace the seal.
14. Wash clothes in warm or cold water and rinse them in cold water. Use hot water only if absolutely necessary. Warm water washes and cold water rinses will result in lower energy use.
15. Fill clothes washers and dryers, unless they have small-load attachments or variable water levels.
16. Do not run the dryer longer than necessary to dry clothes.
17. Separate drying loads into heavy and lightweight items. Since the lighter ones take less drying time, the dryer does not have to be on as long for these loads.
18. Dry your clothes in consecutive loads. Once the dryer is warm, it cuts down on initial energy consumption.
19. Keep the lint screen in the dryer clean. Remove lint after each load.
20. Take more showers than tub baths. Showers use less hot water, hence less

energy, than tub baths.

21. Install a flow restrictor in the pipe to the showerhead. This easy-to-install device can save a considerable amount of hot water in a year. It restricts the flow to an adequate 4 gal. (15 L) of water per minute.

### All living spaces

During the late afternoon and early evening hours, the load on electric systems reaches its peak. To meet the rising loads, the electric utilities must start up inefficient generating equipment. If everyone schedules household chores to minimize energy use during the peak load hours, fewer inefficient generating units would have to be used, and the utilities' daily fuel consumption would be reduced.

Lighting consumes over 16 percent of all electricity used in our homes. Careful use of lighting and other energy-saving measures provides the homemaker with other conservation opportunities:

1. Remove one bulb out of three, and replace it with a burned-out bulb for safety. Replace others with bulbs of the next lower wattage, but concentrate light in reading and working areas and where it is needed. The average electric cost should drop about 4 percent.
2. Turn off all lights when not needed.
3. Use higher lumen-per-watt lights. A fluorescent lamp, for instance, is more than three or four times as efficient as an incandescent bulb. Use fluorescent lights in the kitchen and bathroom. A single long tube is more energy-efficient and economical than two shorter tubes. One 40-watt fluorescent light provides more light than three 60-watt incandescent bulbs and can save you about \$10 per year. Similarly, use one large incandescent bulb instead of several small ones.
4. Use long-life incandescent lamps only in hard-to-reach places. They are less efficient than ordinary bulbs.
5. Keep lamps and lighting fixtures clean.

Dirt absorbs light.

6. Reduce or eliminate ornamental lights except on special holidays or festive occasions.
7. Use outdoor lights only when essential.
8. Light colors for walls, rugs, draperies, and upholstery reduce the amount of artificial lighting required.
9. Turn off radios and television sets when not in use.
10. Do as much household cleaning as possible with cold water. This saves energy used to heat water, and some cleaning products work better in cold water.

### The workshop, the yard, the garden

1. Maintain electrical tools in top operating shape. Keep them clean and properly lubricated.
2. Keep cutting edges sharp. A sharp bit or saw cuts more quickly and therefore uses less power. Oil on bits and metal cutting compounds on saws also reduce power required.
3. Buy the power tool with the lowest horsepower adequate for the work you want it to do.
4. Remember to turn off shop lights, soldering irons, glue pots, and all bench heating devices as quickly as possible.
5. Use handtools in the workshop and hand lawnmowers, pruners, and clippers in place of powered equipment in the yard and garden whenever possible.
6. When using gasoline-powered yard equipment, do not allow it to idle for long periods. Turn it off and restart it when ready to resume work.
7. Plant shade trees and vines on the south and west sides of homes to provide protection against summer sun and to let in natural light in the winter.
8. Use manure or a natural compost from your own yard cuttings for fertilizer. Petroleum and natural gas generally are used as raw materials and for fuel in the manufacturing of artificial fertilizers.

## **Home planning**

When designing a new house, consider the climate and ask local authorities about building codes.

1. Limit window areas to 10 percent of the floor area. In cool climates, install fewer windows in north wall where no solar heating gain can be achieved in winter. In warm climates, put the largest number of windows in the north wall to reduce the heating gain from the sun.
2. Install windows you can open so that you can use natural ventilation in moderate weather.
3. Use double pane glass throughout the house. Windows with double pane heat-reflecting or heat-absorbing glass in south and west windows provide additional energy savings.
4. Insulate walls and roof to the highest specifications recommended for your area, but provide a minimum of 6 in. (15 cm) in the attic and 3 in. (7.5 cm) in the walls. Insulate floors, too, especially those over cold basements and garages.
5. Install the water heater as close as possible to areas of major use. When buying a new water heater, select one with thick insulation on the shell. Avoid purchasing a tank with greater capacity than needed. Ask the dealer to advise you on the size suitable for the number of people in your family.
6. Install louvered (shutter type) panels or wind-powered roof ventilators rather than motor-driven fans to ventilate the attic.
7. Select light-colored roofing in warm climates, dark colors in cold areas.
8. When buying a house, ask for a description of the insulation and data on the efficiency of space heating, air conditioning, and water heating plants. Or have an independent engineer advise you about the efficiency of the equipment provided. Consider the need for additional insulation or replacement of equipment.
9. Build "skirts" around exposed bases of houses, especially mobile homes.

Information from the Federal Energy Administration

# Appendix C

## Metric information

*Metric measurements affect all aspects of life.*

*Useful information dealing with the conversion to the SI metric system is given on the following pages.*

### TO CONVERT

### TO

### MULTIPLY BY

LENGTH		
inches	millimetres	25.4
inches	centimetres	2.54
inches	metres	0.0254
feet	millimetres	304.8
feet	centimetres	30.48
feet	metres	0.3048
yards	millimetres	914.402
yards	centimetres	91.4402
yards	metres	.914402
miles	kilometres	1.609

### AREA

sq. inches	$\text{cm}^2$	6.45
sq. inches	$\text{m}^2$	0.00064
sq. feet	$\text{cm}^2$	929.03
sq. feet	$\text{m}^2$	0.0929

### MASS

ounces	milligram	28350
ounces	grams	28.35
pounds	milligram	45.36

### LIQUID VOLUME

ounces	millilitres	29.573
ounces	litres	0.02957
quarts	litres	0.9463
gallons	litres	3.785

### TEMPERATURE

#### CONVERSION FORMULAS:

$$\begin{aligned}\text{Fahrenheit to Celsius: } \text{degree C} &= \frac{5}{9} \times (\text{F} - 32) \\ \text{Celsius to Fahrenheit: } \text{degree F} &= \left(\frac{9}{5} \times \text{C}\right) + 32\end{aligned}$$

### SI METRIC PREFIXES

POWERS BY WHICH UNIT IS MULTIPLIED	PREFIX NAME	PRONUNCIATION	SYMBOL	
$10^6$ or $10^3$ or $10^2$ or $10^1$ or $10^{-2}$ or $10^{-3}$ or $10^{-6}$ or	1,000,000 1,000 100 0.1 0.01 0.001 0.000001	mega kilo hecto deca deci centi milli micro	as in megaphone kill'o heck'toe deck'a as in decimal sent'ih as in military as in microphone	M k h da d c m $\mu$

### AVERAGE FURNITURE AND EQUIPMENT DIMENSIONS

ITEM	LENGTH	WIDTH/DEPTH	HEIGHT
Automatic dryer	762	762	914
Automatic washer	762	762	914
Bookcase	1219-1524	457	1981-2134
Card table	914	941	762
Chair, desk or dining	457	457	762
Coffee table	914-1524	457-610	355-457
Desk	1219	610	762
Dining table	1524	1067	737
Double bed	1981	1371	508-584
Dresser	1067-1524	559	813-914
End table	610	381	610
Highboy	914	457	1524-2134
Kitchen table	1067	762	762
Lamp table	610	610	762
Love seat	1219	762	914
Lowboy	762	457	762
Occasional chair	686	762	914
Occasional chair, armless	610	762	762
Range	914-1067	762	914
Refrigerator	762-914	610-762	1371-1626
Secretary	914	610	2134
Sofa	1829	762	914
Twin bed	1981	991	508-584
Wing chair	762	762	914

(All dimensions listed in millimetres)

**HOUSEHOLD APPLIANCES AND UNITS OF MEASURE**

APPLIANCE AND MEASUREMENT	CUSTOMARY UNITS		METRIC UNITS	
	SIZE	UNITS	SIZE	UNITS
<b>Dryer:</b> Weight of clothes for maximum load Rate of producing heat: Electric dryer Power of the motor	12 5000 1.25	pounds watts horsepower	5.4 5000 930	kilograms watts watts
<b>Heating and cooling equipment:</b> Gas pressure (for gas equipment) Flow of air through appliance  Power of the fan motor Weight (window air conditioner)	5 100  0.25 100	inches of water cubic feet per minute  feet per minute horsepower pounds	12.5 2.7  30 185 45	kilopascals cubic metres per minute  metres per minute watts kilograms
<b>Humidity control equipment:</b> Rate of evaporation or condensation Volume of water container	2 10	gallons per day quarts	7.6 9.5	litres per day litres
<b>Irons:</b> Area of soleplate Weight Length of cord Rate of heating	30 4 8 1000	square inches pounds feet watts	195 1.8 2.4 1000	square centimetres kilograms metres watts
<b>Lighting equipment:</b> Rate of using electricity Efficiency of conversion: Electricity to light	100 50	kilowatt-hour lumens per watt	100 15	kilowatt-hour lumens per watt
<b>Vacuum cleaner:</b> Suction Length of cord	20 18	inches of water feet	50 5.4	kilopascals metres
<b>Washer:</b> Weight of clothes for maximum load Volume of water in tub Temperature of wash water Power of the motor	12 20 140 0.5	pounds gallons degree Fahrenheit horsepower	5.4 76 60 375	kilograms litres degree Celsius watts
<b>Water heater:</b> Rate of heating: Gas water heater Electric water heater Recovery rate Thermostat setting	30,000 1600 30 150	BTU/hour watts gallons per hour degree Fahrenheit	8790 1600 144 65	watts watts litres per hour degree Celsius

# Glossary

*This list of terms  
will help you gain  
a better understanding  
of the housing field.*

## A

**absorbed light:** light that is taken in, not reflected, by a surface.

**abstract of title:** a copy of all public records concerning a property. It shows the true legal owner and also any debts that are held on the property.

**accent lighting:** sharp lighting used for decorative purposes, especially to focus on the point of emphasis in a room.

**accessories:** the “extras” or “added touches” in a design through which the designer expresses his or her personality; may be either functional (as ashtrays and lamps) or decorative (as pictures and figurines).

**acoustics:** a science concerning the production, transmission and control of sound.

**acquisition:** the act of getting something; one of the three major categories of housing decisions.

**adobe:** a building material consisting of sun-dried earth and straw; a structure built of adobe bricks.

**advancing colors:** see warm colors.

**aesthetics:** the theory of the fine arts and of people’s responses to them; the doctrines of taste.

**agreement of sale:** a contract signed by the buyer and seller of property. It states all specific terms and conditions of the sale.

**alcove:** a recessed section of a room; a niche.  
**analogous color harmony:** a color harmony

that combines three to five related colors.

**antique:** anything very old; term applied to anything made in a former period of time.

**apartment:** a suite of rooms in a multifamily dwelling which houses a living unit.

**appraisal:** an evaluation of property to determine its worth or value. An appraisal is concerned chiefly with market value — what price the property would bring in the marketplace.

**apprentice:** one who is enrolled in an organized program of job training often supplemented with vocational classes; a beginner in an occupation.

**apron:** the part of a window below the sill.

**arched window:** a window with a curved top edge.

**architect:** one who designs buildings and supervises their construction.

**artificial light:** light from sources other than the sun; produced light such as incandescent or fluorescent.

**assign:** to transfer the entire unexpired portion of a lease to someone else.

**asymmetrical:** a type of balance in which the two sides of a design are of equal importance but are not identical.

**atmosphere:** all the air surrounding the earth; also the general aesthetic effect produced by a design such as the mood created by the furnishings in a room.

**attached dwellings:** dwellings that are connected, usually by a common wall.

**attitude:** one's disposition, opinion, ideas; a human resource.

**awning window:** a window with a horizontal pane which tips out to open.

## B

**balance:** a feeling of equilibrium; a principle of design.

**balcony:** a platform projecting from a building and enclosed by a balustrade. Balconies usually open onto an upper story.

**balustrade:** a railing.

**basic life-style:** a way of living that is con-

cerned with only the basics or necessities of life.

**basket weave:** a variation of the plain weave in which two or more filling or warp yarns are woven as one.

**bay window:** a combination of three or more windows which project outward from the wall of a house.

**behavioral environment:** one's surroundings as affected by interaction among people.

**belvadere:** a small room on the roof of a house used as a lookout.

**bid:** a statement of what a contractor would charge to build a specific dwelling.

**blight:** anything that destroys, frustrates, prevents growth, etc.

**blueprint:** a photographic reproduction of an original floor plan showing exact structural details; often white on a blue background.

**bow window:** a curved, multi-pane window which extends "out" of a room.

**breach of contract:** failure to meet all terms of a contract or agreement.

**burl:** a knot on some trees that produces an interesting, irregular grain pattern.

## C

**cabriole:** a furniture leg with an "s-shaped" curve and decorative foot.

**cafes:** a window treatment made of fabric which covers part of a window. (More than one tier can be used, in which case the entire window can be covered.) The top of each tier is joined to rings which slip over a curtain rod.

**cantilever:** a horizontal beam or member which extends beyond its support.

**career:** a profession or occupation.

**career cluster:** a group of several careers which are closely related.

**career ladder:** a progression of related careers, each one requiring more qualifications than the previous one.

**career lattice:** a chart showing related career opportunities organized in such a way that by moving up the chart, the careers require more qualifications, and by moving across the chart, the careers are in a slightly

different subject area.

**career web:** see career cluster.

**carpentry:** the work or trade of a carpenter, one who builds or repairs wooden articles, buildings, etc.

**carrying charges:** the amounts, other than interest, added to the price of something that is bought on an installment plan.

**casement window:** a window with vertical panes which are pushed or cranked open, usually to the outside.

**cathedral window:** a window which follows a sloping roof line and which is above a glass wall.

**central-satellite decisions:** a major decision that is surrounded by related, but independent, decisions.

**cereal box design:** a term used to describe tall, rectangular buildings that have straight walls and flat roofs.

**chain decisions:** a sequence of decisions in which one decision triggers others. All decisions in the chain must be made to complete an action.

**clerestory window:** a window which follows the roof line and is above a solid wall.

**climate:** prevailing weather conditions of a region as determined by the temperature and meteorological changes over a period of years.

**closing costs:** fees for settling the many legal and financial matters of buying and selling property.

**cluster housing:** the grouping of dwellings close together in order to save more land for shared areas such as public gardens and parks.

**cluster units:** modules which are combined to form a dwelling. The modules or units can be easily added or removed, depending on the spatial needs of the living unit.

**code:** a body of laws arranged systematically for easy reference, as a building code which regulates building materials and construction methods.

**colonnade:** a series of columns which support the extension of a roof.

**color:** an element of design; often the most noticed element.

**color harmony (or color scheme):** a pleasing combination of colors.

**color wheel:** a particular circular arrangement of primary, secondary and intermediate colors; the basis for all color relationships.

**common storage:** storage used by all members of a living unit.

**communal life-style:** a way of life in which a group of persons combine their resources for the common good of all.

**commune:** a group of people who have at least one aspect of life in common.

**community:** a particular area that is smaller than a region, but larger than a neighborhood. Examples include cities, towns, villages. Also, the people living within a given area who have a common interest.

**complementary color harmony:** a color harmony based on a pair of complementary colors or hues.

**complementary hues:** hues which are directly across from one another on the color wheel.

**condominium:** a type of ownership in which the buyer owns individual living space and also has an undivided interest in the common areas and facilities of the multi-unit project.

**conservation:** protection from loss or waste.

**constructed environment:** the result of interaction between the natural environment and human effort.

**contemporary styles:** styles (of furniture or buildings) of the present time; the very latest designs. They may or may not gain widespread acceptance.

**contracting family:** a family that is becoming smaller as children become adults and leave their parents' home.

**contractor:** a person who contracts or agrees to supply certain materials or to do certain work for a stipulated fee, especially one who contracts to build buildings.

**cool colors:** colors that are close to blue on the color wheel. They are relaxing colors. Because they make objects seem farther away, they are also called receding colors.

**cooperative:** a type of ownership in which a property is owned by a corporation. Resi-

dents buy stock in the corporation which entitles them to occupy a certain living space. Each resident owns an undivided interest in the entire property.

**cooperative education:** schooling that includes work experience.

**cornice:** horizontal molding along the top of a building, wall, mantel, etc.; also a horizontal band used to conceal the tops of draperies.

**cornice lighting:** a type of structural lighting in which a row of fluorescent tubes is placed along a wall just below the ceiling. All the light is directed downward.

**cost:** the amount of human and nonhuman resources used to achieve something.

**cove lighting:** a type of structural lighting in which the light source is recessed in the upper part of a wall. The light is directed upward to the ceiling.

**crotchwood:** a special wood grain formed where branches grow out from the trunk of a tree.

**cultural heritage:** the arts, skills, customs and traits of a particular group of people which are passed down from one generation to another.

**curtains:** flat fabric panels used to cover windows. They have a pocket hem at the top which slips onto a curtain rod.

**custom-designed house:** a house which is designed to meet the needs, values and life situations of a particular living unit and which is built according to the living unit's specifications.

## D

**decibel:** unit of measure for the volume of sound.

**decision:** the act of making up one's mind; a conclusion; a choice.

**decision-making process:** a series of three steps that are taken in order to make a rational decision. The steps are: 1-problem identification; 2-seeking alternate solutions; 3-choosing one of the alternatives and taking action.

**declaration of ownership:** a document stating

the conditions and restrictions of the sale, ownership and use of property within a certain group of condominium units.

**deed:** the legal document by which a title of real property is transferred from one person to another.

**design:** the arrangement of parts that produces an artistic unit.

**design elements:** color, line, form, texture.

**design goals:** beauty, appropriateness, unity with variation.

**design principles:** proportion, balance, emphasis, rhythm.

**diffused light:** light that is scattered over a large area. It has no glare.

**direct lighting:** lighting that shines directly toward the surface to be lit. Very little is reflected from other surfaces.

**divan bed:** a type of dual-purpose sleep furniture in which a mattress folds up inside the seat of the sofa.

**dormer:** a structure which projects through a sloping roof and contains a window.

**double-hung window:** a window with two sashes, both of which can be raised or lowered to allow maximum flexibility in ventilation.

**downlights:** a type of structural lighting installed in ceilings. They may be recessed or surface-mounted.

**down payment:** initial payment made to secure a purchase when the rest of the amount owed will be paid in regular installments of a lesser amount.

**draw draperies:** pinch-pleated panels of fabric which can cover windows completely or be pulled to the sides.

**duplex:** two dwellings combined in a single structure.

**dwelling:** any type of structure in which people live.

## E

**eaves:** the lower border of a roof which extends out beyond the wall.

**eclectic:** a type of decor based on a mixture of furniture styles.

**ecology:** the study of the relationship be-

tween living organisms and their surroundings.

**economic:** having to do with the satisfaction of material needs of people or with the management of income, expenditures, etc.

**economic level:** a rank or status in society dependent upon the amount of money a person or family has to spend.

**ecosystem:** a community together with its environment in which each living thing – plant or animal – is indispensable to the life of every other living thing.

**elements of design:** color, line, form, texture.

**emphasis:** a center of interest in a design; an object or area of special importance; a principle of design.

**environment:** surroundings; all the conditions, circumstances and influences surrounding and affecting the development of a living organism.

**eviction:** a legal procedure which forces a tenant to leave the property before the rental agreement expires.

**expanding family:** family in the process of growing; one of the stages of a family life cycle.

**extended family:** a living unit consisting of a nuclear family plus near relatives.

**extending space:** making more space or the illusion of more space.

provide water drainage.

**floor plan:** a scale drawing showing the size and arrangement of rooms, halls, doors, etc. on one floor of a building.

**fluorescent light:** light produced as electricity activates mercury vapor within a sealed tube to create invisible ultraviolet rays. These rays are converted to visible light rays by a fluorescent material that coats the inside of the glass tube.

**footcandle:** a unit of measure for illumination; the amount of light a standard candle throws onto a surface which is one foot away. (*see also: lux*)

**foreclosure:** a legal proceeding in which a lending firm takes possession of the mortgaged property of a debtor who fails to live up the terms of a contract.

**form:** the physical shape and structure of objects; one of the three major categories of housing decisions; one of the elements of design.

**formal balance:** symmetrical balance.

**founding family:** initial stage of family life cycle, before children are born.

**frame:** the structure that encloses and supports a window.

**free-standing dwelling:** a dwelling that stands alone and is not connected to any other structure.

**fringe benefits:** benefits other than wages that are provided by an employer to an employee, such as paid vacations, pension plans and health insurance.

## F

**family life cycle:** a series of stages through which a family passes during its lifetime.

**fiber content:** the type or types of fibers used to make a textile item such as upholstery or carpeting.

**finance:** to provide credit to an individual or business; also, the science concerned with money and credit.

**finance charge:** a fee paid for the privilege of using credit. It includes interest and carrying charges.

**fixed income:** an income which remains constant regardless of economic changes.

**fixed window:** a window which cannot be opened for air ventilation.

**flat roof:** roof with just enough slope to

## G

**gable roof:** a roof that comes to a point in the center and slopes on both sides.

**gambrel roof:** a two-pitched roof with the lower slope steeper than the upper slope.

**general lighting:** soft, low-level lighting throughout a room or area.

**general warranty deed:** a deed which guarantees that the title is clear of any claims against it.

**geothermal energy:** energy coming from the heat of the earth's interior.

**gingerbread:** a term used to describe the

excessive ornamentation found on Victorian style buildings.

**goals of design:** beauty, appropriateness, unity with variation.

**gross income:** total income before any deductions are made.

## H

**habitat:** place where a person or thing is normally found.

**habitual behavior:** an action that is done as a matter of routine, without thought.

**hardwood:** wood from such trees as oak, maple, beech, birch, hickory, mahogany, cherry, teak, walnut, pecan.

**heat pump:** a mechanical device used for both heating and cooling buildings.

**hip roof:** a roof with sloping ends and sloping sides.

**home:** any place a person lives.

**house:** a free-standing, single-family dwelling.

**housing:** a dwelling together with all that is within it and near it; includes furnishings, yard, neighborhood and community.

**hue:** the name of a color; the one thing that makes a color unique.

**human ecology:** the interdependence of people and their environment.

**human resources:** resources which are available from people. Examples include ability, knowledge, energy, attitude, health.

**humidity:** amount of moisture in the air; humidity levels in buildings can be controlled by humidifiers and dehumidifiers.

## I

**illusion:** a deceiving or misleading appearance or image.

**incandescent light:** the light produced when electric current heats a tungsten filament inside a bulb so that it glows.

**indirect lighting:** lighting that is directed mainly toward walls and ceilings. It is reflected from these surfaces to produce soft, general lighting for a room.

**individualistic life-style:** a way of life that is unique and that sets one apart from others.

**individual life cycle:** a series of stages through which a person passes during his or her lifetime.

**influential life-style:** a way of life that influences or affects others.

**informal balance:** asymmetrical balance.

**installment buying:** the process of buying something by making a series of payments during a given length of time.

**insulation:** limitation of transfer of heat or sound between the inside and outside of a structure or between parts of a structure; materials used to block such transfer.

**integration:** act of uniting; process of including persons from different backgrounds into a group or society as equals.

**intensity:** the brightness or dullness of a hue.

**interest:** the price paid for the use of borrowed money. It is usually stated as an annual percentage rate of the amount borrowed.

**intermediate colors (or tertiary colors):** colors made by mixing equal amounts of a primary color and a secondary color; red-orange, yellow-orange, yellow-green, blue-green, blue-violet and red-violet.

## J

**Jacquard weave:** an intricate method of weaving in which the warp threads are individually controlled. Elaborate designs can be made.

**jalousie window:** a window with several narrow horizontal panes which tip out to open.

**job description:** a brief explanation of what a particular job is like: what duties it involves, what qualifications are needed, and what opportunities it offers.

**job skills:** the abilities needed to perform the tasks that a certain job demands.

## K

**kit house:** a house which is partially completed in a factory.

**knitted fabrics:** fabrics made of interlooping yarns.

## L

**landlord (or lessor):** the owner of property who leases or rents it to another person.

**landscaping:** changing the appearance of a site by altering the topography and adding decorative plantings.

**lease:** a legal document transferring the use of property from one person to another for a certain length of time in return for payment in the form of rent.

**lessee:** one who has signed a lease and pays rent to a lessor or landlord for the use of property.

**lessor:** see landlord.

**life cycle:** a series of stages through which an individual or a family passes during its lifetime.

**life situations:** circumstances which affect persons and the way they live; factors which determine the way persons interact with each other and with their housing.

**life-style:** a living pattern or way of life.

**light fixture:** a furnishing or structure that contains one or more light bulbs. It is usually permanently attached to a wall or ceiling.

**light meter:** a device used to measure amounts of light.

**line:** an element of design. It gives a sense of motion and direction to a design.

**living unit:** people who share the same living quarters.

**location:** a place which every part of housing has, either inside or outside a dwelling; one of the three major categories of housing decisions.

**luminous ceiling:** a ceiling made of translucent panels which cover recessed lights.

**lux:** a metric unit of measure for light. 10 lux or .1 hectolux equals about 1 footcandle.

icals. Examples include nylon, polyester, acrylic, olefin.

**masonry:** construction of stone, brick, or concrete materials; also the work done by a mason who works with such materials.

**median income:** the middle income in a series of incomes.

**megalopolis:** a vast, populous, urban area which may include several cities.

**microenvironment:** a small part of your total surroundings; your housing environment.

**migrant workers:** seasonal workers who move from farm to farm as work becomes available. They are often forced to live in substandard housing.

**minimum property standards (MPS):** standards set by the Federal Housing Administration which regulate the sizes of lots.

**minority group:** part of population that differs from the rest in some characteristics.

**mobile home:** a factory-built, single-family dwelling. It can be moved by attaching wheels to it.

**modern styles:** styles (of furniture or buildings) which have become popular in the recent past.

**modular dwellings:** dwellings which are built in factories and then moved in sections (modules) to the sites.

**monochromatic color harmony:** a color harmony based on a single color.

**mortar:** a mixture of cement or lime with sand and water that is used in masonry or plastering.

**mortgage:** a pledge of property as security for the payment of a debt.

**motor home:** an automotive vehicle equipped as a home.

**multifamily dwelling:** a structure that provides housing for more than one living unit, such as an apartment building.

## M

**macroenvironment:** your total surroundings.

**Mansard roof:** a roof having two slopes on all sides with the lower one steeper than the upper one.

**manufactured fibers:** fibers made from chem-

## N

**natural environment:** the environment as provided by nature. Resources of the natural environment are land, water, plants and air.

**natural fibers:** fibers made from plant or

**animal sources:** Examples include cotton, flax, wool, silk.

**natural light:** light from the sun.

**needs:** requirements for the well-being of a person.

**neighborhood:** a section of a community in which some similarities are usually found in the buildings and in the people.

**net income:** income after deductions such as social security and income tax have been made; take-home pay.

**neutralized hues:** hues which have been changed by the addition of white, gray or black.

**noise:** unwanted sound; a form of pollution.

**nonhuman resources:** resources which are not directly supplied by people. Examples include property, money, public libraries, city parks, schools, stores.

**nonwoven fabrics:** textile items which are not woven or knitted. Used loosely, the term includes bonded fiber webs, needle-punched fabrics, vinyl and leather.

**normal value (of a hue):** the value of a hue that is shown on the color wheel.

**nuclear family:** a living unit consisting of a husband and wife and their children; also, a childless married couple.

## O

**one-parent family:** a family with only a mother or a father, not both.

**open areas:** areas in a house without walls as divisions.

**ordinance:** a statute enacted by a city government.

**orientation:** the placement of a dwelling in a specific location in order to take advantage of factors such as sunlight, wind direction and scenery; adaption to a situation or environment.

**ornamented:** decorated; adorned.

## P

**pane:** the sheet of glass in a window.

**partial wall:** wall that does not go all the way up to the ceiling.

**patio:** an open area used for outdoor living. It may be adjacent to or surrounded by the dwelling.

**pediment:** an architectural decoration above a portico, window or door; often triangular in shape.

**pendant:** an ornament hanging from a roof or ceiling.

**penthouse:** a dwelling located on the top of a building.

**period furniture styles:** furniture styles that first became popular during certain times in history.

**personal qualifications:** characteristics of an individual which make him or her suitable for a job.

**physical neighborhood:** the material aspects of a neighborhood; a neighborhood in which the land and buildings are used for similar purposes — either residential, commercial or industrial.

**picture window:** a large window, often with a single pane.

**pile weave:** a variation of a basic weave in which additional yarn is located on the fabric's surface.

**plain weave:** a method of interlacing yarns in which each filling yarn passes over, then under, each warp yarn.

**planned community:** a community which is completely designed before the first building is built. Residences, schools, churches, shopping centers, health and public service facilities and recreational facilities are all part of the design.

**plywood:** a building material consisting of thin sheets or veneers of wood which are bonded together under pressure.

**pollutant:** something that pollutes or makes something unclean, impure or corrupt.

**portico:** an open space covered with a roof that is supported by columns; often found at the entrance of a building.

**pressed wood:** a board made by pressing together bits of sawdust.

**primary colors:** colors from which all other colors can be made; red, yellow and blue.

**primary needs (or basic needs):** the most important needs of all humans; physical in

nature. Examples include food, shelter, clothing, air, water.

**principles of design:** proportion, balance, emphasis, rhythm.

**priority:** precedence or superiority in rank or position.

**private zone:** the part of the site hidden from public view. It provides space for recreation and relaxation.

**property tax:** money paid to the government for property one owns.

**proportion:** the ratio of one part to another part or to the whole; a principle of design.

**public zone:** the part of a site that can be seen from the street.

## Q

**qualified:** having met certain conditions or requirements; having the necessary or desired characteristics.

**quality of life:** the degree of satisfaction obtained from life situations.

**quiet area of home:** the part of a dwelling that provides space for sleeping, resting, grooming and dressing; includes bedrooms and bathrooms.

**quitclaim deed:** a deed that transfers whatever interest the seller has in the property.

## R

**rational decision:** a decision based on reasoning.

**real estate firm:** a business that deals with property in the form of land and buildings.

**real property:** land, together with anything attached to it, as buildings, fences and plants.

**realtor:** a real estate salesperson or broker.

**receding colors:** see cool colors.

**recycle:** to use again.

**reflected light:** light that bounces off a surface.

**region:** a specific part of the world, a country or a state.

**remodel:** to rebuild; to change the structure of something.

**rent:** a stated amount paid at fixed intervals

for the use of property such as a dwelling or land; also the act of holding property under an agreement to pay rent.

**renter:** one who rents property. *see also lessee, tenant.*

**resident:** one who lives in a place as distinguished from a visitor or transient.

**residential:** of or suitable for residences or homes.

**resources:** things that lie ready for use or can be drawn upon for aid.

**rhythm:** a sense of movement in a natural flow from one part of a design to another; a principle of design.

**rib weave:** a variation of the plain weave in which the warp and filling yarns are unequal in size.

**Roman shades:** shades which form accordian folds as they are raised.

**row houses:** a continuous group of houses connected by common sidewalls.

**rural poor:** persons in rural areas who are forced to live in substandard housing because of economic reasons.

## S

**sash:** the framework which surrounds the panes of glass in a window.

**satin weave:** a method of interlacing yarns in which each warp or filling yarn passes over several yarns and then under one yarn. The interlacings progress by two to either the right or left, creating a smooth fabric surface.

**secondary colors:** colors made by mixing equal amounts of two primary colors; green, violet, orange.

**secondary needs:** human needs that are of lower priority than primary needs; psychological or social in nature. Examples include security, love, esteem, beauty, prestige, self-actualization.

**security deposit:** an amount paid by a renter to a landlord in addition to monthly payments. It insures the landlord against financial loss which may be caused by the renter.

**segregation:** the process of setting apart; the

**isolation**: isolation of a race, class or ethnic group by voluntary or involuntary means.

**self-actualization**: the fulfillment of one's potential; the highest level of human need.

**service zone**: the part of the site that is used for necessary activities. Service zones include sidewalks, driveways, and garages.

**shade**: a value of a hue that is darker than the hue's normal value.

**sill**: the horizontal piece at the base of a window.

**single-family dwelling**: a structure that provides housing for one living unit. Attached single-family dwellings share a common wall with the dwellings on each side. Town houses and row houses are examples. Free-standing single-family dwellings are not connected to any other building.

**site (or lot)**: the piece of land on which a dwelling is built.

**slanting window**: see cathedral window.

**sliding window**: a window with two panes — one fixed and one free to slide behind it.

**slum**: a heavily populated area in which living conditions are extremely poor; an area in which most of the buildings are detrimental to health, safety or morals.

**social area of home**: the part of a dwelling that provides space for recreation, entertaining and dining; includes living room, family room, dining room, etc.

**social class**: a rank or level in a particular society.

**social neighborhood**: a type of neighborhood determined by the people who live in it. Social neighborhoods may be either homogenous or heterogenous; low-density or high-density.

**socioeconomic status**: a term used to describe both the social class and economic level of a person or group.

**sofa bed**: a general term used to describe any type of dual-purpose sleep furniture; specifically, a sofa with a back that folds down to form a bed.

**soffit lighting**: a type of structural lighting which can be either attached to or recessed into a ceiling.

**softwood**: wood from such trees as Douglas

fir, larch, redwood, cedar, cypress, southern yellow pine, eastern white pine, western hemlock.

**solar collectors**: special plates installed in the roof of a building to soak up the sun's heat.

**solar energy**: energy from the sun; the primary source of all energy forms.

**solid wood furniture**: furniture in which all exposed parts are made of whole pieces of wood.

**spatial need**: the need for space.

**special warranty deed**: a deed that guarantees that during the time the seller held title to the property, the seller did nothing which would impair the buyer's title.

**specific lighting (or task lighting)**: lighting in a certain area that is bright enough to allow detailed tasks to be done comfortably. It is often used to supplement general lighting.

**splat-back chair**: a chair whose back consists of thin, flat, decorative pieces that are joined together.

**spur-of-the-moment decision**: a decision that is made quickly, with little thought of the possible consequences.

**status**: position, rank, standing.

**steps in decision-making**: see decision-making process.

**structural lighting**: lighting that is part of the built-in design of a building.

**stucco**: a plaster-like material which, when applied to the exterior walls of a building, forms a hard covering.

**studio couch**: a type of dual-purpose sleep furniture consisting of an upholstered mattress on an upholstered frame. When the upper cushions are removed, it is much like a twin bed.

**studio lounge**: a type of dual-purpose sleep furniture consisting of a foam pad resting on flat springs.

**sublet**: to transfer part interest in a property to someone else. If you sublet an apartment, both you and the other person are held responsible for all terms of the lease.

**suburb**: a smaller community, often residential, within commuting distance of a larger community.

**supportive life-style**: a way of life that gives

**psychological**, financial or physical support to others.

**supportive personnel**: persons who help carry out the decisions made by their superiors.

**symmetrical**: a type of balance in which the two sides of a design are alike in size, shape and relative position of parts.

## T

**task detailing**: identifying each step that must be done to complete a task.

**task lighting**: see specific lighting.

**tenant**: one who pays rent to occupy or use property.

**tenement house**: a building divided into apartments, especially one that is in a poor section of a community and is overcrowded and dirty.

**texture**: the surface characteristics of something that appeal to the senses of sight and touch; an element of design.

**tint**: a value of a hue that is lighter than the hue's normal value.

**title**: a document that gives evidence of the rights of ownership and possession of a particular property.

**title insurance**: insurance against financial loss caused by errors in the abstract of title for a property.

**topography**: the physical features of land such as hills and rivers; the art of representing such features on maps and charts.

**town house**: a single-family dwelling that is connected to a similar house by a common sidewall.

**tract house**: a house that is similar in design to other houses in the surrounding area.

**traditional styles**: styles (of furniture or buildings) which became popular during a certain period of history.

**traffic patterns**: the paths people follow as they move within a room or from one room to another.

**triplex**: a multifamily dwelling for three living units.

**turret**: a small tower.

**twill weave**: a method of interlacing yarns in which each warp or filling yarn passes over

two or more yarns and then under one yarn. The interlacings progress by one to either the right or left to create a pattern of diagonal lines or wales.

## U

**unfinished furniture**: furniture having no finish or final coat, as of paint, stain or varnish.

**unity**: an arrangement of parts that produces a single harmonious effect.

**upholstered furniture**: pieces of furniture which have springs, padding and a fabric covering.

**urban**: of, in, or relating to a city or town.

**utility**: something useful to the public, as the service of gas, water, electricity.

## V

**valence lighting**: a type of structural lighting used over windows. A row of fluorescent tubes directs light both upward and downward.

**value (of a hue)**: the lightness or darkness of a hue.

**value (of a person)**: something which a person enjoys and considers important.

**value scale**: a representation of the full range of values for a hue, from tints to shades.

**value system**: a set of values by which a person lives.

**veneered wood (or plywood)**: wood made by bonding several thin layers of wood together at right angles to each other. Fine wood is often used for the top layer or *veneer face*.

**ventilation**: the circulation of air; a means of providing fresh air.

**visual pollution**: the destruction of beauty in natural and constructed environments.

## W

**wall bracket lighting**: a type of structural lighting in which a row of fluorescent tubes on a wall directs light both upward and downward.

**wall washers:** a type of structural lighting installed in ceilings. They direct a uniform amount of light onto a wall.

**warm colors:** colors close to red on the color wheel. They are stimulating colors, and they draw attention. Because they make objects seem nearer, they are sometimes called advancing colors.

**warranty:** a written guarantee of a product's performance and of the maker's responsibilities concerning defective parts.

**watt:** a unit of measure for electric power.

**well-being:** the state of being healthy, happy and content.

**windbreak:** that which provides shelter from wind, especially a hedge or row of trees.

**wood grain:** the natural decorative characteristics of wood. Pattern depends to a great

extent on how wood is cut from the log.

**work area of home:** the parts of a dwelling that are needed to maintain and service other areas; includes kitchen, utility room, workshop, etc.

**working conditions:** the physical and financial aspects of a job; the surroundings, pay scale, fringe benefits, etc.

**work triangle:** the triangle formed within a kitchen by drawing an imaginary line from the refrigerator to the range to the sink.

**woven fabrics:** fabrics made by interlacing sets of yarns.

## Z

**zoning rules:** city regulations which determine the way real property may be used.

## Acknowledgments

The author wishes to thank Lettie Cale, Hazel Coatsworth, Willie Mae Coombs, Mary Alice Davis, Amy Jean Knorr, Dolores Watkins and Madeline Minchin for their assistance in developing the framework for the content of this book. Appreciation is also extended to Peggy Brown and Milton Lewis for reading and commenting on the chapters; to colleagues and members of her family for their support and encouragement; to Robert Lewis for his help in preparing the glossary; to Janet Dearing for her help in developing the instructor's guide; and to Sylvia Gillis for typing the manuscript.

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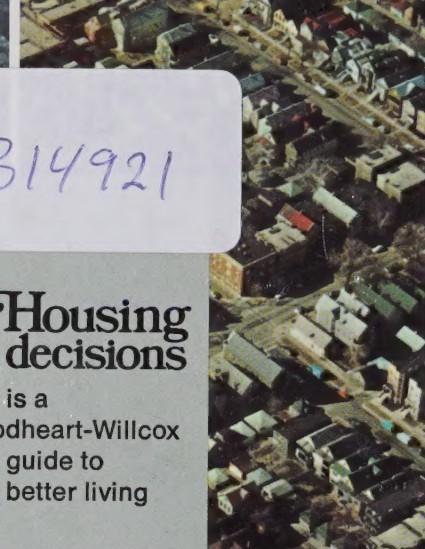
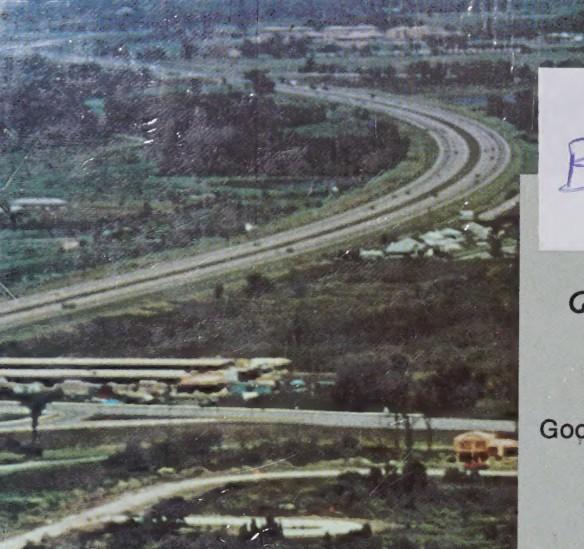
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